OM protein - protein search, using sw model

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GenCore version 5.1.6

Run on: February 6, 2004, 16:39:35 ; Search time 34 Seconds
(without alignments)
289.440 Million cell updates/sec

Title: US-10-004-381-25
Perfect score: 258
Sequence: 1 MDEKTTGWRGGHVVEGLAGLE.........LEHHPQGQREPMMSGGCKLG 47

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 801455 seqs, 209382283 residues

Total number of hits satisfying chosen parameters: 801455

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Database :

Published Applications AA:*
1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
4: /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
5: /cgn2_6/ptodata/1/pubpaa/PCTUS_PUBCOMB.pep:*
6: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
7: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
8: /cgn2_6/ptodata/1/pubpaa/US09A_PUBCOMB.pep:*
9: /cgn2_6/ptodata/1/pubpaa/US09B_PUBCOMB.pep:*
10: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep:*
11: /cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
12: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*
13: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
14: /cgn2_6/ptodata/1/pubpaa/US10C_PUBCOMB.pep:*
15: /cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep:*
16: /cgn2_6/ptodata/1/pubpaa/US60_NEW_PUB.pep:*
17: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*
18: /cgn2_6/ptodata/1/pubpaa/US60_PUBCOMB.pep:*

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	258	100.0	47	14	US-10-004-381-25	Sequence 25, Appl
2	243	94.2	47	14	US-10-004-381-26	Sequence 26, Appl
3	241	93.4	47	14	US-10-004-381-24	Sequence 24, Appl
4	234	90.7	75	14	US-10-004-381-23	Sequence 23, Appl
5	227	88.0	89	14	US-10-004-381-22	Sequence 22, Appl
6	214	82.9	101	14	US-10-004-381-21	Sequence 21, Appl
7	211	81.8	101	14	US-10-004-381-19	Sequence 19, Appl
8	208	80.6	38	14	US-10-004-381-35	Sequence 35, Appl
9	208	80.6	426	14	US-10-004-381-41	Sequence 41, Appl
10	208	80.6	479	14	US-10-004-381-38	Sequence 38, Appl
11	199	77.1	39	14	US-10-004-381-27	Sequence 27, Appl
12	152	58.9	29	14	US-10-004-381-29	Sequence 29, Appl
13	133	51.6	89	14	US-10-004-381-28	Sequence 28, Appl
14	94	36.4	44	14	US-10-004-381-34	Sequence 34, Appl
15	70	27.1	102	14	US-10-004-381-11	Sequence 11, Appl
16	68	26.4	101	14	US-10-004-381-12	Sequence 12, Appl
17	66.5	25.8	739	15	US-10-156-761-13097	Sequence 13097, A
18	61	23.6	1181	15	US-10-156-761-12448	Sequence 12448, A
19	59.5	23.1	84	12	US-09-864-408A-6610	Sequence 6610, A
20	59.5	23.1	342	9	US-09-912-020-260	Sequence 260, App
21	59	22.9	139	12	US-10-094-749-2955	Sequence 2955, Ap
22	59	22.9	140	10	US-09-902-180-6	Sequence 6, Appli
23	59	22.9	147	9	US-09-864-761-39307	Sequence 39307, A
24	59	22.9	1974	12	US-10-369-493-6395	Sequence 6395, Ap
25	58	22.5	2222	12	US-10-369-493-3923	Sequence 3923, App
26	57.5	22.3	1065	10	US-09-771-161A-239	Sequence 239, App
27	57	22.1	330	12	US-10-241-742-116	Sequence 116, App
28	57	22.1	330	12	US-10-440-523-116	Sequence 116, App
29	57	22.1	330	10	US-10-146-772-116	Sequence 116, App
30	57	22.1	474	10	US-09-738-626-6856	Sequence 6856, Ap
31	56.5	21.9	215	9	US-09-815-242-13710	Sequence 13710, A
32	56.5	21.9	986	15	US-09-864-153-50	Sequence 50, Appl
33	56	21.7	339	15	US-10-156-761-8695	Sequence 8695, Ap
34	56	21.7	468	12	US-10-975-719-29	Sequence 29, Appl
35	55.5	21.5	374	15	US-10-156-761-11951	Sequence 11951, A
36	55.5	21.5	1388	12	US-10-173-999-32	Sequence 32, Appl
37	55.5	21.5	1388	11	US-09-860-473-82	Sequence 82, Appl
38	55	21.3	243	15	US-10-156-761-12808	Sequence 12808, A
39	55	21.3	450	12	US-10-156-761-13613	Sequence 13613, A
40	55	21.3	605	12	US-10-156-761-2077	Sequence 2077, Ap
41	54.5	21.1	472	15	US-10-156-761-9474	Sequence 9474, Ap
42	54.5	21.1	5215	10	US-09-861-289-2	Sequence 2, Appli
43	54.5	21.1	5215	10	US-09-860-846-2	Sequence 2, Appli
44	54.5	21.1	5215	11	US-09-988-384B-2	Sequence 2, Appli
45	54.5	21.1	5215	11	US-09-836-821-2	Sequence 2, Appli

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

ALIGNMENTS

RESULT 1
US-10-004-381-25
; Sequence 25, Application US20020155578A1
; Publication No. US20020155578A1
; GENERAL INFORMATION:
; APPLICANT: SZOSTAK, JACK W.
; APPLICANT: WILSON, DAVID S.
; APPLICANT: KEEFE, ANTHONY D.
; TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 00786/388002
; CURRENT APPLICATION NUMBER: US/10/004,381
; CURRENT FILING DATE: 2001-10-31
; PRIOR APPLICATION NUMBER: US 60/244,541
; PRIOR FILING DATE: 2000-10-31
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 25
; LENGTH: 47
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: selected peptide
US-10-004-381-25

Query Match   100.0%;   Score 258;   DB 14;   Length 47;
Best Local Similarity   100.0%;   Pred. No. 3.7e-26;
Matches 47;   Conservative 0;   Mismatches 0;   Indels 0;   Gaps 0;

```
Qy   1 MDEKTTGWRGGHVVEGLAGLEQLRARLEHHPQGQREPMMSGGCKLG 47
         ||||||||||||||||||||||||||||||||||||||||||||||
Db   1 MDEKTTGWRGGHVVEGLAGLEQLRARLEHHPQGQREPMMSGGCKLG 47
```

RESULT 2
US-10-004-381-26
; Sequence 26, Application US/10004381
; Publication No. US20020155578A1

```
GENERAL INFORMATION:
;  APPLICANT: SZOSTAK, JACK W.
;  APPLICANT: WILSON, DAVID S.
;  APPLICANT: KEEFE, ANTHONY D.
;  TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
;  TITLE OF INVENTION: THEREOF
;  FILE REFERENCE: 00786/388002
;  CURRENT APPLICATION NUMBER: US/10/004,381
;  CURRENT FILING DATE: 2001-10-31
;  PRIOR APPLICATION NUMBER: US 60/244,541
;  PRIOR FILING DATE: 2000-10-31
;  NUMBER OF SEQ ID NOS: 41
;  SOFTWARE: FastSEQ for Windows Version 4.0
;  SEQ ID NO 26
;  LENGTH: 47
;  TYPE: PRT
;  ORGANISM: Artificial Sequence
;  FEATURE:
;  OTHER INFORMATION: selected peptide
US-10-004-381-26

Query Match             94.2%;  Score 243;  DB 14;  Length 47;
Best Local Similarity   95.7%;  Pred. No. 3.3e-24;
Matches   45;  Conservative   0;  Mismatches   2;  Indels   0;  Gaps   0;

Qy       1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREEMMSGGCKLG 47
           ||||||||||||||||||||||||||||||||||| ||||||||||
Db       1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHGAGQREPMMSGGCKLG 47


RESULT 3
US-10-004-381-24
; Sequence 24, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
;  APPLICANT: SZOSTAK, JACK W.
;  APPLICANT: WILSON, DAVID S.
;  APPLICANT: KEEFE, ANTHONY D.
;  TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
;  TITLE OF INVENTION: THEREOF
;  FILE REFERENCE: 00786/388002
;  CURRENT APPLICATION NUMBER: US/10/004,381
;  CURRENT FILING DATE: 2001-10-31
;  PRIOR APPLICATION NUMBER: US 60/244,541
;  PRIOR FILING DATE: 2000-10-31
;  NUMBER OF SEQ ID NOS: 41
;  SOFTWARE: FastSEQ for Windows Version 4.0
;  SEQ ID NO 24
;  LENGTH: 61
;  TYPE: PRT
;  ORGANISM: Artificial Sequence
;  FEATURE:
;  OTHER INFORMATION: selected peptide
US-10-004-381-24

Query Match             77.0%;  Score 241;  DB 14;  Length 61;
Best Local Similarity   93.4%;  Pred. No. 7.9e-24;
Matches   47;  Conservative   0;  Mismatches   0;  Indels   14;  Gaps   1;

Qy       1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPLVQEVEDVDEGLVQMMSGGCKL 47
           |||||||||||||||||||||||||||||||||||------------||||||||||
Db       1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPLVQEVEDVDEGLVQMMSGGCKL 46

Qy      47 G  47
           |  |
Db      61 G  61
```

```
;  APPLICANT: SZOSTAK, JACK W.
;  APPLICANT: WILSON, DAVID S.
;  APPLICANT: KEEFE, ANTHONY D.
;  TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
;  TITLE OF INVENTION: THEREOF
;  FILE REFERENCE: 00786/388002
;  CURRENT APPLICATION NUMBER: US/10/004,381
;  CURRENT FILING DATE: 2001-10-31
;  PRIOR APPLICATION NUMBER: US 60/244,541
;  PRIOR FILING DATE: 2000-10-31
;  NUMBER OF SEQ ID NOS: 41
;  SOFTWARE: FastSEQ for Windows Version 4.0
;  SEQ ID NO 23
;  LENGTH: 75
;  TYPE: PRT
;  ORGANISM: Artificial Sequence
;  FEATURE:
;  OTHER INFORMATION: selected peptide
US-10-004-381-23

Query Match             90.7%;  Score 234;  DB 14;  Length 75;
Best Local Similarity   62.7%;  Pred. No. 8e-23;
Matches   47;  Conservative   0;  Mismatches   0;  Indels   28;  Gaps   1;

Qy       1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP-------------------- 38
           ||||||||||||||||||||||||||||||||||||||
Db       1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPLVQEVEDVDEGLVQDLHGVVAG 60

Qy      39 ------MMSGGCKLG 47
                 |||||||||
Db      61 LLDPVEMMSGGCKLG 75


RESULT 5
US-10-004-381-22
; Sequence 22, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
;  APPLICANT: SZOSTAK, JACK W.
;  APPLICANT: WILSON, DAVID S.
;  APPLICANT: KEEFE, ANTHONY D.
;  TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
;  TITLE OF INVENTION: THEREOF
;  FILE REFERENCE: 00786/388002
;  CURRENT APPLICATION NUMBER: US/10/004,381
;  CURRENT FILING DATE: 2001-10-31
;  PRIOR APPLICATION NUMBER: US 60/244,541
;  PRIOR FILING DATE: 2000-10-31
;  NUMBER OF SEQ ID NOS: 41
;  SOFTWARE: FastSEQ for Windows Version 4.0
;  SEQ ID NO 22
;  LENGTH: 89
;  TYPE: PRT
;  ORGANISM: Artificial Sequence
;  FEATURE:
;  OTHER INFORMATION: selected peptide
US-10-004-381-22

Query Match             88.0%;  Score 227;  DB 14;  Length 89;
Best Local Similarity   52.8%;  Pred. No. 7.7e-22;
Matches   47;  Conservative   0;  Mismatches   0;  Indels   42;  Gaps   1;

Qy       1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP-------------------- 38
           ||||||||||||||||||||||||||||||||||||||
Db       1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPLVQEVEDVDEGLVQDLHGVVAG 60

Qy      39 --------------MMSGGCKLG 47
                         |||||||||
Db      61 LLDPVEKLLITDWFKFKFKNVSMMSGGCKLG 89


RESULT 6
US-10-004-381-21
```

Sequence 21, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
; APPLICANT: SZOSTAK, JACK W.
; APPLICANT: WILSON, DAVID S.
; APPLICANT: KEEFE, ANTHONY D.
; TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 00786/388002
; CURRENT APPLICATION NUMBER: US/10/004,381
; CURRENT FILING DATE: 2001-10-31
; PRIOR APPLICATION NUMBER: US 60/244,541
; PRIOR FILING DATE: 2000-10-31
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 21
; LENGTH: 101
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: selected peptide
US-10-004-381-21

Query Match   82.9%; Score 214; DB 14; Length 101;
Best Local Similarity   44.6%; Pred. No. 4.3e-20;
Matches   45; Conservative   2; Mismatches   0; Indels   54; Gaps   1;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPMM------------------ 40
             ||||||||||||||||||||||||||||||||||::
Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPLVQEVEDVDEGLVQDLHGVVAG 60

Qy   41 ----------------------------SGGCKIG 47
                                         |||||||
Db   61 LLDPVEKLLTDWFKKFKNVSKDCKMTFYLEMYDWSGGCKIG 101

RESULT 7
US-10-004-381-19
; Sequence 19, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
; APPLICANT: SZOSTAK, JACK W.
; APPLICANT: WILSON, DAVID S.
; APPLICANT: KEEFE, ANTHONY D.
; TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 00786/388002
; CURRENT APPLICATION NUMBER: US/10/004,381
; CURRENT FILING DATE: 2001-10-31
; PRIOR APPLICATION NUMBER: US 60/244,541
; PRIOR FILING DATE: 2000-10-31
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 19
; LENGTH: 101
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: selected peptide
US-10-004-381-19

Query Match   81.8%; Score 211; DB 14; Length 101;
Best Local Similarity   95.0%; Pred. No. 1.1e-19;
Matches   38; Conservative   2; Mismatches   0; Indels   0; Gaps   0;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPMM 40
             |||||||||||||||||||||||||||||||||||||::
Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPLV 40

RESULT 8
US-10-004-381-35
; Sequence 35, Application US/10004381

Publication No. US20020155578A1
; GENERAL INFORMATION:
; APPLICANT: SZOSTAK, JACK W.
; APPLICANT: WILSON, DAVID S.
; APPLICANT: KEEFE, ANTHONY D.
; TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 00786/388002
; CURRENT APPLICATION NUMBER: US/10/004,381
; CURRENT FILING DATE: 2001-10-31
; PRIOR APPLICATION NUMBER: US 60/244,541
; PRIOR FILING DATE: 2000-10-31
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 35
; LENGTH: 38
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: selected peptide
US-10-004-381-35

Query Match   80.6%; Score 208; DB 14; Length 38;
Best Local Similarity 100.0%; Pred. No. 8.8e-20;
Matches   38; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
             ||||||||||||||||||||||||||||||||||||||
Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 9
US-10-004-381-41
; Sequence 41, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
; APPLICANT: SZOSTAK, JACK W.
; APPLICANT: WILSON, DAVID S.
; APPLICANT: KEEFE, ANTHONY D.
; TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 00786/388002
; CURRENT APPLICATION NUMBER: US/10/004,381
; CURRENT FILING DATE: 2001-10-31
; PRIOR APPLICATION NUMBER: US 60/244,541
; PRIOR FILING DATE: 2000-10-31
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 41
; LENGTH: 426
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: designed protein
US-10-004-381-41

Query Match   80.6%; Score 208; DB 14; Length 426;
Best Local Similarity 100.0%; Pred. No. 1.2e-18;
Matches   38; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
             ||||||||||||||||||||||||||||||||||||||
Db   378 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 415

RESULT 10
US-10-004-381-38
; Sequence 38, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
; APPLICANT: SZOSTAK, JACK W.
; APPLICANT: WILSON, DAVID S.
; APPLICANT: KEEFE, ANTHONY D.

; TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 00786/388002
; CURRENT APPLICATION NUMBER: US/10/004,381
; CURRENT FILING DATE: 2001-10-31
; PRIOR APPLICATION NUMBER: US 60/244,541
; PRIOR FILING DATE: 2000-10-31
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 38
; LENGTH: 479
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Designed protein
US-10-004-381-38

Qy   Query Match   80.6%;   Score 208;   DB 14;   Length 479;
            Best Local Similarity 100.0%; Pred. No. 1.4e-18;
            Matches 38;   Conservative 0;   Mismatches 0;   Indels 0;   Gaps 0;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
           |||||||||||||||||||||||||||||||||||||||
Db   378 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 415

RESULT 11
US-10-004-381-27
; Sequence 27, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
; APPLICANT: SZOSTAK, JACK W.
; APPLICANT: WILSON, DAVID S.
; APPLICANT: KEEFE, ANTHONY D.
; TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 00786/388002
; CURRENT APPLICATION NUMBER: US/10/004,381
; CURRENT FILING DATE: 2001-10-31
; PRIOR APPLICATION NUMBER: US 60/244,541
; PRIOR FILING DATE: 2000-10-31
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 27
; LENGTH: 39
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: selected peptide
US-10-004-381-27

Qy   Query Match   77.1%;   Score 199;   DB 14;   Length 39;
            Best Local Similarity 100.0%; Pred. No. 1.3e-18;
            Matches 37;   Conservative 0;   Mismatches 0;   Indels 0;   Gaps 0;

Qy   11 GHVVEGLAGELEQLRARLEHHPQGQREPMMSGGCKLG 47
           |||||||||||||||||||||||||||||||||||||||
Db   3 GHVVEGLAGELEQLRARLEHHPQGQREPMMSGGCKLG 39

RESULT 12
US-10-004-381-29
; Sequence 29, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
; APPLICANT: SZOSTAK, JACK W.
; APPLICANT: WILSON, DAVID S.
; APPLICANT: KEEFE, ANTHONY D.
; TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 00786/388002
; CURRENT APPLICATION NUMBER: US/10/004,381
; CURRENT FILING DATE: 2001-10-31

; PRIOR APPLICATION NUMBER: US 60/244,541
; PRIOR FILING DATE: 2000-10-31
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 29
; LENGTH: 29
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: selected peptide
US-10-004-381-29

Qy   Query Match   58.9%;   Score 152;   DB 14;   Length 29;
            Best Local Similarity 100.0%; Pred. No. 1.2e-12;
            Matches 28;   Conservative 0;   Mismatches 0;   Indels 0;   Gaps 0;

Qy   20 ELEQLRARLEHHPQGQREPMMSGGCKLG 47
           |||||||||||||||||||||||||||||
Db   2 ELEQLRARLEHHPQGQREPMMSGGCKLG 29

RESULT 13
US-10-004-381-28
; Sequence 28, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
; APPLICANT: SZOSTAK, JACK W.
; APPLICANT: WILSON, DAVID S.
; APPLICANT: KEEFE, ANTHONY D.
; TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 00786/388002
; CURRENT APPLICATION NUMBER: US/10/004,381
; CURRENT FILING DATE: 2001-10-31
; PRIOR APPLICATION NUMBER: US 60/244,541
; PRIOR FILING DATE: 2000-10-31
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 28
; LENGTH: 89
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: selected peptide
US-10-004-381-28

Qy   Query Match   51.6%;   Score 133;   DB 14;   Length 89;
            Best Local Similarity 35.6%; Pred. No. 1.2e-09;
            Matches 31;   Conservative 2;   Mismatches 0;   Indels 54;   Gaps 1;

Qy   15 EGLAGELEQLRARLEHHPQGQREPMM--------------------------- 40
           ||||||||||||||||||||||||||:::
Db   3 EGLAGELEQLRARLEHHPQGQREPLVQEVEDVDEGLVQDLHGVVAGLLDPVEKLLTDWFK 62

Qy   41 ---------------------SGGCKLG 47
                                ||||||
Db   63 KFKNVSKDCKMTFYLEMYDWSGGCKLG 89

RESULT 14
US-10-004-381-34
; Sequence 34, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
; APPLICANT: SZOSTAK, JACK W.
; APPLICANT: WILSON, DAVID S.
; APPLICANT: KEEFE, ANTHONY D.
; TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 00786/388002
; CURRENT APPLICATION NUMBER: US/10/004,381
; CURRENT FILING DATE: 2001-10-31
; PRIOR APPLICATION NUMBER: US 60/244,541

```
;   PRIOR FILING DATE: 2000-10-31
;   NUMBER OF SEQ ID NOS: 41
;   SOFTWARE: FastSEQ for Windows Version 4.0
;
;   SEQ ID NO 34
;   LENGTH: 44
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: designed peptide
US-10-004-381-34

Qy          18 AGELEQLRAR------------LEHHPQGQREPMMSGGGCKLG 47
                  |  :|       ||        |:|||||||||||
Db           8 AGPVDQADARLVQQGALQHHPQGDR--MMSGGGCKLG 41

Query Match          36.4%;   Score 94;   DB 14;   Length 44;
Best Local Similarity     58.3%;   Pred. No. 6.1e-05;
Matches  21;  Conservative   3;  Mismatches  4;  Indels  8;  Gaps  2;

RESULT 15
US-10-004-381-11
;   Sequence 11, Application US/10004381
;   Publication No. US20020155578A1
;   GENERAL INFORMATION:
;   APPLICANT: SZOSTAK, JACK W.
;   APPLICANT: WILSON, DAVID S.
;   APPLICANT: KEEFE, ANTHONY D.
;   TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
;   TITLE OF INVENTION: THEREOF
;   FILE REFERENCE: 00786/388002
;   CURRENT APPLICATION NUMBER: US/10/004,381
;   CURRENT FILING DATE: 2001-10-31
;   PRIOR APPLICATION NUMBER: US 60/244,541
;   PRIOR FILING DATE: 2000-10-31
;   NUMBER OF SEQ ID NOS: 41
;   SOFTWARE: FastSEQ for Windows Version 4.0
;
;   SEQ ID NO 11
;   LENGTH: 102
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: selected peptide
US-10-004-381-11

Qy           1 MDEKTTGW--RGGHVEGLAGELEQLRARLEHHPQGQREPMM 40
                |||||  |  |  |  | |   |  | :|  |||||||| |::
Db           1 MDEK-THWHERVHHLADG------------LEQHPQGQRRPLV 30

Query Match          27.1%;   Score 70;   DB 14;   Length 102;
Best Local Similarity     42.9%;   Pred. No. 0.2;
Matches  18;  Conservative   4;  Mismatches  6;  Indels  14;  Gaps  3;
```

Search completed: February 6, 2004, 16:42:54
Job time : 36 secs

OM protein - protein search, using sw model

```
                    GenCore version 5.1.6
              Copyright (c) 1993 - 2004  Compugen Ltd.
```

Run on: February 6, 2004, 17:14:57 ; Search time 21 Seconds
                                               (without alignments)
                                               215.235 Million cell updates/sec

Title:
Perfect score: 47
Sequence: 1 MDEKTTGWRGGHVUEGLAGE..........LEHHPQGQREPWMSGGCKLG 47

Scoring table: OLIGO
                    Gapop 60.0 , Gapext 60.0

Searched: 283308 seqs, 96168682 residues

Word size :   10

Total number of hits satisfying chosen parameters: 0

Post-processing: Listing first 45 summaries

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Database :   PIR_76:*
                    1: pir1:*
                    2: pir2:*
                    3: pir3:*
                    4: pir4:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

                              SUMMARIES

            %
Result   Query
No. Score Match Length DB ID   Description
---- ----- ----- ------ --- --   -----------

No matches found

Search completed: February 6, 2004, 17:15:32
Job time : 21 secs
```

OM protein - protein search, using sw model

GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.

Run on:           February 6, 2004, 17:14:57 ; Search time 11 Seconds
                                               (without alignments)
                                               200.932 Million cell updates/sec

Title:
Perfect score:    47
Sequence:         US-10-004-381-25
                  1 MDEKTTGWRGGHVVEGLAGE..........LEHHPQGQREPMMSGGCKLG 47

Scoring table:    OLIGO
                  Gapop 60.0 , Gapext 60.0

Searched:         127863 seqs, 47026705 residues

Word size :       10

Total number of hits satisfying chosen parameters:        0

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 45 summaries

Database :        SwissProt_41:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

                                SUMMARIES

              %
Result        Query
No.    Score  Match  Length DB  ID                 Description
------ -----  -----  ------ --- ------------------ ------------------

No matches found

Search completed: February  6, 2004, 17:16:43
Job time : 11 secs

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OM protein - protein search, using sw model

GenCore version 5.1.6
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Run on:          February 6, 2004, 17:14:57 ; Search time 35 Seconds
                                           (without alignments)
                                           346.528 Million cell updates/sec

Title:
Perfect score:   47
Sequence:        US-10-004-381-25
                 1 MDEXTTGWRGGHVVEGLAGE..........LEHHPQGQREPMMSGGCKLG 47

Scoring table:   OLIGO
                 Gapop 60.0 , Gapext 60.0

Searched:        830525 seqs, 258052604 residues

Word size :      10

Total number of hits satisfying chosen parameters:     0

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 45 summaries

Database :       SPTREMBL_23:*
                 1: sp_archea:*
                 2: sp_bacteria:*
                 3: sp_fungi:*
                 4: sp_human:*
                 5: sp_invertebrate:*
                 6: sp_mammal:*
                 7: sp_mhc:*
                 8: sp_organelle:*
                 9: sp_phage:*
                 10: sp_plant:*
                 11: sp_rodent:*
                 12: sp_virus:*
                 13: sp_vertebrate:*
                 14: sp_unclassified:*
                 15: sp_rvirus:*
                 16: sp_bacteriap:*
                 17: sp_archeap:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match Length | DB | ID | Description |
|---|---|---|---|---|---|

No matches found

Search completed: February 6, 2004, 17:16:20
Job time : 35 secs

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OM protein - protein search, using sw model

Run on:          February 6, 2004, 17:15:37 ; Search time 21 Seconds
                                              (without alignments)
                                              94.696 Million cell updates/sec

Title:
Perfect score:   47
Sequence:        1 MDEKTTGWRGGHVVEGLAGE..........LEHHPQGQREPMMSGGCKLG 47

Scoring table:   OLIGO
                 Gapop 60.0 , Gapext 60.0

Searched:        328717 seqs, 42310858 residues

Word size :      10

Total number of hits satisfying chosen parameters:     0

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 45 summaries

Database :       Issued_Patents_AA:*
                 1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
                 2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
                 3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
                 4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
                 5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
                 6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

                                    SUMMARIES

Result                %
No.    Score    Query   Match length DB   ID                    Description
                Match length DB
------ -----    -----------------------                         -----------

No matches found

Search completed: February  6, 2004, 17:20:15
Job time : 21 secs

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OM protein - protein search, using sw model

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GenCore version 5.1.6

Run on:  February 6, 2004, 17:16:27 ; Search time 34 Seconds
(without alignments)
289.440 Million cell updates/sec

Title:          US-10-004-381-25
Perfect score:  47
Sequence:       1 MDEKTTGWRGGHVVEGLAGE.........LEHHPQGQREPMMSGGCKLG 47

Scoring table:  OLIGO
Gapop 60.0 , Gapext 60.0

Searched:       801455 seqs, 20938283 residues

Word size :     10

Total number of hits satisfying chosen parameters:        13

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 45 summaries

Database :      Published_Applications_AA.*
1: /cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*
2: /cgn2_6/ptodata/1/pubpaa/PCT_NEW_PUB.pep:*
3: /cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*
4: /cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep:*
5: /cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*
6: /cgn2_6/ptodata/1/pubpaa/PCTUS_PUBCOMB.pep:*
7: /cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*
8: /cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*
9: /cgn2_6/ptodata/1/pubpaa/US09A_PUBCOMB.pep:*
10: /cgn2_6/ptodata/1/pubpaa/US09B_PUBCOMB.pep:*
11: /cgn2_6/ptodata/1/pubpaa/US09C_PUBCOMB.pep:*
12: /cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep:*
13: /cgn2_6/ptodata/1/pubpaa/US10A_PUBCOMB.pep:*
14: /cgn2_6/ptodata/1/pubpaa/US10B_PUBCOMB.pep:*
15: /cgn2_6/ptodata/1/pubpaa/US10C_PUBCOMB.pep:*
16: /cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep:*
17: /cgn2_6/ptodata/1/pubpaa/US60_NEW_PUB.pep:*
18: /cgn2_6/ptcodata/1/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 47 | 100.0 | 47 | 14 | US-10-004-381-25 | Sequence 25, Appl |
| 2 | 38 | 80.9 | 38 | 14 | US-10-004-381-35 | Sequence 35, Appl |
| 3 | 38 | 80.9 | 61 | 14 | US-10-004-381-24 | Sequence 24, Appl |
| 4 | 38 | 80.9 | 75 | 14 | US-10-004-381-23 | Sequence 23, Appl |
| 5 | 38 | 80.9 | 89 | 14 | US-10-004-381-22 | Sequence 22, Appl |
| 6 | 38 | 80.9 | 101 | 14 | US-10-004-381-19 | Sequence 19, Appl |
| 7 | 38 | 80.9 | 101 | 14 | US-10-004-381-21 | Sequence 21, Appl |
| 8 | 38 | 80.9 | 426 | 14 | US-10-004-381-41 | Sequence 41, Appl |
| 9 | 38 | 80.9 | 479 | 14 | US-10-004-381-38 | Sequence 38, Appl |
| 10 | 37 | 78.7 | 39 | 14 | US-10-004-381-27 | Sequence 27, Appl |
| 11 | 31 | 66.0 | 47 | 14 | US-10-004-381-26 | Sequence 26, Appl |
| 12 | 28 | 59.6 | 29 | 14 | US-10-004-381-29 | Sequence 29, Appl |
| 13 | 24 | 51.1 | 89 | 14 | US-10-004-381-28 | Sequence 28, Appl |

ALIGNMENTS

RESULT 1
US-10-004-381-25
; Sequence 25, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
; APPLICANT: SZOSTAK, JACK W.
; APPLICANT: WILSON, DAVID S.
; APPLICANT: KEEFE, ANTHONY D.
; TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 00786/388002
; CURRENT APPLICATION NUMBER: US/10/004,381
; CURRENT FILING DATE: 2001-10-31
; PRIOR APPLICATION NUMBER: US 60/244,541
; PRIOR FILING DATE: 2000-10-31
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 25
; LENGTH: 47
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: selected peptide
US-10-004-381-25

Query Match             100.0%;  Score 47;  DB 14;  Length 47;
Best Local Similarity   100.0%;  Pred. No. 3.7e-41;
Matches    47;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

```
Qy          1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPMMSGGCKLG 47
              |||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPMMSGGCKLG 47
```

RESULT 2
US-10-004-381-35
; Sequence 35, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
; APPLICANT: SZOSTAK, JACK W.
; APPLICANT: WILSON, DAVID S.
; APPLICANT: KEEFE, ANTHONY D.
; TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 00786/388002
; CURRENT APPLICATION NUMBER: US/10/004,381
; CURRENT FILING DATE: 2001-10-31
; PRIOR APPLICATION NUMBER: US 60/244,541
; PRIOR FILING DATE: 2000-10-31
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 35
; LENGTH: 38
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: selected peptide
US-10-004-381-35

Query Match   80.9%; Score 38; DB 14; Length 38;
Best Local Similarity   100.0%; Pred. No. 5.7e-32;
Matches   38; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

```
Qy          1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
              ||||||||||||||||||||||||||||||||||||||
Db          1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
```

RESULT 3
US-10-004-381-24

```
; Sequence 24, Application US/10004381
; Publication No US20020155578A1
; GENERAL INFORMATION:
;   APPLICANT: SZOSTAK,
;   APPLICANT: WILSON, DAVID S.
;   APPLICANT: KEEFE, ANTHONY D.
;   TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
;   FILE REFERENCE: 00786/388002
;   CURRENT APPLICATION NUMBER: US/10/004,381
;   CURRENT FILING DATE: 2001-10-31
;   PRIOR APPLICATION NUMBER: US 60/244,541
;   PRIOR FILING DATE: 2000-10-31
;   NUMBER OF SEQ ID NOS: 41
;   SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 24
;   LENGTH: 61
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: selected peptide
US-10-004-381-24

Qy   Query Match        80.9%;    Score 38;    DB 14;    Length 61;
Db   Best Local Similarity    100.0%;    Pred. No. 8.6e-32;
     Matches  38;    Conservative   0;    Mismatches  0;    Indels  0;    Gaps  0;

  1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
     |||||||||||||||||||||||||||||||||||||
  1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 4
US-10-004-381-23
; Sequence 23, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
;   APPLICANT: SZOSTAK, JACK W.
;   APPLICANT: WILSON, DAVID S.
;   APPLICANT: KEEFE, ANTHONY D.
;   TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
;   FILE REFERENCE: 00786/388002
;   CURRENT APPLICATION NUMBER: US/10/004,381
;   CURRENT FILING DATE: 2001-10-31
;   PRIOR APPLICATION NUMBER: US 60/244,541
;   PRIOR FILING DATE: 2000-10-31
;   NUMBER OF SEQ ID NOS: 41
;   SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 23
;   LENGTH: 75
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: selected peptide
US-10-004-381-23

Qy   Query Match        80.9%;    Score 38;    DB 14;    Length 75;
Db   Best Local Similarity    100.0%;    Pred. No. 1e-31;
     Matches  38;    Conservative   0;    Mismatches  0;    Indels  0;    Gaps  0;

  1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
     |||||||||||||||||||||||||||||||||||||
  1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 5
US-10-004-381-22
; Sequence 22, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
;   APPLICANT: SZOSTAK, JACK W.
;   APPLICANT: WILSON, DAVID S.
;   APPLICANT: KEEFE, ANTHONY D.
;   TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
;   FILE REFERENCE: 00786/388002
;   CURRENT APPLICATION NUMBER: US/10/004,381
;   CURRENT FILING DATE: 2001-10-31
;   PRIOR APPLICATION NUMBER: US 60/244,541
;   PRIOR FILING DATE: 2000-10-31
;   NUMBER OF SEQ ID NOS: 41
;   SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 22
;   LENGTH: 89
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: selected peptide
US-10-004-381-22

Qy   Query Match        80.9%;    Score 38;    DB 14;    Length 89;
Db   Best Local Similarity    100.0%;    Pred. No. 1.2e-31;
     Matches  38;    Conservative   0;    Mismatches  0;    Indels  0;    Gaps  0;

  1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
     |||||||||||||||||||||||||||||||||||||
  1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 6
US-10-004-381-19
; Sequence 19, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
;   APPLICANT: SZOSTAK, JACK W.
;   APPLICANT: WILSON, DAVID S.
;   APPLICANT: KEEFE, ANTHONY D.
;   TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
;   FILE REFERENCE: 00786/388002
;   CURRENT APPLICATION NUMBER: US/10/004,381
;   CURRENT FILING DATE: 2001-10-31
;   PRIOR APPLICATION NUMBER: US 60/244,541
;   PRIOR FILING DATE: 2000-10-31
;   NUMBER OF SEQ ID NOS: 41
;   SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 19
;   LENGTH: 101
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: selected peptide
US-10-004-381-19

Qy   Query Match        80.9%;    Score 38;    DB 14;    Length 101;
Db   Best Local Similarity    100.0%;    Pred. No. 1.3e-31;
     Matches  38;    Conservative   0;    Mismatches  0;    Indels  0;    Gaps  0;

  1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
     |||||||||||||||||||||||||||||||||||||
  1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 7
US-10-004-381-21
; Sequence 21, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
;   APPLICANT: SZOSTAK, JACK W.
;   APPLICANT: WILSON, DAVID S.
;   APPLICANT: KEEFE, ANTHONY D.
;   TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
;   FILE REFERENCE: 00786/388002
;   CURRENT APPLICATION NUMBER: US/10/004,381
```

```
;  CURRENT FILING DATE:       2001-10-31
;  PRIOR APPLICATION NUMBER:  US 60/244,541
;  PRIOR FILING DATE:         2000-10-31
;  NUMBER OF SEQ ID NOS: 41
;  SOFTWARE: FastSEQ for Windows Version 4.0
;
US-10-004-381-21
;  SEQ ID NO 21
;  LENGTH: 101
;  TYPE: PRT
;  ORGANISM: Artificial Sequence
;  FEATURE:
;  OTHER INFORMATION: selected peptide
US-10-004-381-21

  Query Match             80.9%;  Score 38;  DB 14;  Length 101;
  Best Local Similarity   100.0%;  Pred. No. 1.3e-31;
  Matches 38;  Conservative 0;  Mismatches 0;  Indels 0;  Gaps 0;

Qy          1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
              ||||||||||||||||||||||||||||||||||||||
Db          1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38


RESULT 8
US-10-004-381-41
;  Sequence 41, Application US/10004381
;  Publication No. US20020155578A1
;  GENERAL INFORMATION:
;  APPLICANT:  SZOSTAK, JACK W.
;  APPLICANT:  WILSON, DAVID S.
;  APPLICANT:  KEEFE, ANTHONY D.
;  TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
;  TITLE OF INVENTION: THEREOF
;  FILE REFERENCE: 00786/388002
;  CURRENT APPLICATION NUMBER: US/10/004,381
;  CURRENT FILING DATE: 2001-10-31
;  PRIOR APPLICATION NUMBER: US 60/244,541
;  PRIOR FILING DATE: 2000-10-31
;  NUMBER OF SEQ ID NOS: 41
;  SOFTWARE: FastSEQ for Windows Version 4.0
;  SEQ ID NO 41
;  LENGTH: 426
;  TYPE: PRT
;  ORGANISM: Artificial Sequence
;  FEATURE:
;  OTHER INFORMATION: designed protein
US-10-004-381-41

  Query Match             80.9%;  Score 38;  DB 14;  Length 426;
  Best Local Similarity   100.0%;  Pred. No. 4.7e-31;
  Matches 38;  Conservative 0;  Mismatches 0;  Indels 0;  Gaps 0;

Qy          1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
              ||||||||||||||||||||||||||||||||||||||
Db        378 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 415


RESULT 9
US-10-004-381-38
;  Sequence 38, Application US/10004381
;  Publication No. US20020155578A1
;  GENERAL INFORMATION:
;  APPLICANT:  SZOSTAK, JACK W.
;  APPLICANT:  WILSON, DAVID S.
;  APPLICANT:  KEEFE, ANTHONY D.
;  TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
;  TITLE OF INVENTION: THEREOF
;  FILE REFERENCE: 00786/388002
;  CURRENT APPLICATION NUMBER: US/10/004,381
;  CURRENT FILING DATE: 2001-10-31
;  PRIOR APPLICATION NUMBER: US 60/244,541
;  PRIOR FILING DATE: 2000-10-31
;  NUMBER OF SEQ ID NOS: 41
;  SOFTWARE: FastSEQ for Windows Version 4.0
;  SEQ ID NO 38
;  LENGTH: 479
;  TYPE: PRT
;  ORGANISM: Artificial Sequence
;  FEATURE:
;  OTHER INFORMATION: Designed protein
US-10-004-381-38

  Query Match             80.9%;  Score 38;  DB 14;  Length 479;
  Best Local Similarity   100.0%;  Pred. No. 5.2e-31;
  Matches 38;  Conservative 0;  Mismatches 0;  Indels 0;  Gaps 0;

Qy          1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
              ||||||||||||||||||||||||||||||||||||||
Db        378 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 415


RESULT 10
US-10-004-381-27
;  Sequence 27, Application US/10004381
;  Publication No. US20020155578A1
;  GENERAL INFORMATION:
;  APPLICANT:  SZOSTAK, JACK W.
;  APPLICANT:  WILSON, DAVID S.
;  APPLICANT:  KEEFE, ANTHONY D.
;  TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
;  TITLE OF INVENTION: THEREOF
;  FILE REFERENCE: 00786/388002
;  CURRENT APPLICATION NUMBER: US/10/004,381
;  CURRENT FILING DATE: 2001-10-31
;  PRIOR APPLICATION NUMBER: US 60/244,541
;  PRIOR FILING DATE: 2000-10-31
;  NUMBER OF SEQ ID NOS: 41
;  SOFTWARE: FastSEQ for Windows Version 4.0
;  SEQ ID NO 27
;  LENGTH: 39
;  TYPE: PRT
;  ORGANISM: Artificial Sequence
;  FEATURE:
;  OTHER INFORMATION: selected peptide
US-10-004-381-27

  Query Match             78.7%;  Score 37;  DB 14;  Length 39;
  Best Local Similarity   100.0%;  Pred. No. 6.2e-31;
  Matches 37;  Conservative 0;  Mismatches 0;  Indels 0;  Gaps 0;

Qy         11 GHVVEGLAGELEQLRARLEHHPQGQREPMMSGGCKLG 47
              |||||||||||||||||||||||||||||||||||||
Db          3 GHVVEGLAGELEQLRARLEHHPQGQREPMMSGGCKLG 39


RESULT 11
US-10-004-381-26
;  Sequence 26, Application US/10004381
;  Publication No. US20020155578A1
;  GENERAL INFORMATION:
;  APPLICANT:  SZOSTAK, JACK W.
;  APPLICANT:  WILSON, DAVID S.
;  APPLICANT:  KEEFE, ANTHONY D.
;  TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
;  TITLE OF INVENTION: THEREOF
;  FILE REFERENCE: 00786/388002
;  CURRENT APPLICATION NUMBER: US/10/004,381
;  CURRENT FILING DATE: 2001-10-31
;  PRIOR APPLICATION NUMBER: US 60/244,541
;  PRIOR FILING DATE: 2000-10-31
;  NUMBER OF SEQ ID NOS: 41
;  SOFTWARE: FastSEQ for Windows Version 4.0
;  SEQ ID NO 26
;  LENGTH: 47
;  TYPE: PRT
;  ORGANISM: Artificial Sequence
;  FEATURE:
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; OTHER INFORMATION: selected peptide
US-10-004-381-26

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHH 31
        ||||||||||||||||||||||||||||||
Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHH 31

Query Match   66.0%; Score 31; DB 14; Length 47;
Best Local Similarity 100.0%; Pred. No. 1.1e-24;
Matches   31; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

RESULT 12
US-10-004-381-29
; Sequence 29, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
; APPLICANT: SZOSTAK, JACK W.
; APPLICANT: WILSON, DAVID S.
; APPLICANT: KEEFE, ANTHONY D.
; TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 00786/388002
; CURRENT APPLICATION NUMBER: US/10/004,381
; CURRENT FILING DATE: 2001-10-31
; PRIOR APPLICATION NUMBER: US 60/244,541
; PRIOR FILING DATE: 2000-10-31
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 29
; LENGTH: 29
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: selected peptide
US-10-004-381-29

Qy   20 ELEQLRARLEHHPQGQREPMMSGGCKLG 47
        |||||||||||||||||||||||||||||
Db   2 ELEQLRARLEHHPQGQREPMMSGGCKLG 29

Query Match   59.6%; Score 28; DB 14; Length 29;
Best Local Similarity 100.0%; Pred. No. 9e-22;
Matches   28; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

RESULT 13
US-10-004-381-28
; Sequence 28, Application US/10004381
; Publication No. US20020155578A1
; GENERAL INFORMATION:
; APPLICANT: SZOSTAK, JACK W.
; APPLICANT: WILSON, DAVID S.
; APPLICANT: KEEFE, ANTHONY D.
; TITLE OF INVENTION: STREPTAVIDIN-BINDING PEPTIDES AND USES
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 00786/388002
; CURRENT APPLICATION NUMBER: US/10/004,381
; CURRENT FILING DATE: 2001-10-31
; PRIOR APPLICATION NUMBER: US 60/244,541
; PRIOR FILING DATE: 2000-10-31
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 28
; LENGTH: 89
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: selected peptide
US-10-004-381-28

Query Match   51.1%; Score 24; DB 14; Length 89;
Best Local Similarity 100.0%; Pred. No. 3.2e-17;

Matches   24; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

Qy   15 EGLAGELEQLRARLEHHPQGQREP 38
        ||||||||||||||||||||||||
Db   3 EGLAGELEQLRARLEHHPQGQREP 26

Search completed: February 6, 2004, 17:21:02
Job time : 35 secs

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                    GenCore version 5.1.6
           Copyright (c) 1993 - 2004 Compugen Ltd.

OM protein - protein search, using sw model

Run on:          February  6, 2004, 16:38:52 ; Search time 41 Seconds
                                               (without alignments)
                                 181.955 Million cell updates/sec

Title:           US-10-004-381-25
Perfect score:   258
Sequence:        1 MDEKTTGWRGGHVVEGLAGE........LEHHPQGQREPMMSGGCKLG 47

Scoring table:   BLOSUM62
                 Gapop 10.0 , Gapext 0.5

Searched:        1107863 seqs, 15872573 residues

Total number of hits satisfying chosen parameters:        1107863

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
                 Maximum Match 100%
                 Listing first 45 summaries

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  2: /SIDS1/gcgdata/geneseq/geneseq-embl/AA1981.DAT:*
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 23: /SIDS1/gcgdata/geneseq/geneseq-embl/AA2002.DAT:*
 24: /SIDS1/gcgdata/geneseq/geneseq-embl/AA2003.DAT:*
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Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	258	100.0	47	23	ABG67079	Streptavidin-bindi
2	258	100.0	47	24	ABU57601	Synthetic peptide
3	243	94.2	47	23	ABG67080	Streptavidin-bindi
4	243	94.2	47	24	ABU57602	Streptavidin-bindi
5	241	93.4	61	23	ABG67078	Streptavidin-bindi
6	241	93.4	61	24	ABU57600	Synthetic peptide
7	234	90.7	75	23	ABG67077	Streptavidin-bindi
8	234	90.7	75	24	ABU57599	Synthetic peptide
9	227	88.0	89	23	ABG67076	Streptavidin-bindi
10	227	88.0	89	24	ABU57598	Synthetic peptide
11	214	82.9	101	23	ABG67075	Streptavidin-bindi
12	214	82.9	101	24	ABU57597	Streptavidin-bindi
13	211	81.8	101	23	ABG67073	Streptavidin-bindi
14	211	81.8	101	24	ABU57595	Streptavidin-bindi
15	208	80.6	208	23	ABG67087	Streptavidin-bindi
16	208	80.6	208	24	ABU57609	Streptavidin-bindi
17	208	80.6	426	23	ABG67091	Maltose-binding pr
18	208	80.6	426	24	ABU57613	Streptavidin-bindi
19	208	80.6	479	23	ABG67089	Maltose-binding pr
20	208	80.6	479	24	ABU57611	Streptavidin-bindi
21	199	77.1	39	23	ABG67081	Streptavidin-bindi
22	199	77.1	39	24	ABU57603	Synthetic peptide
23	152	58.9	29	23	ABG67083	Streptavidin-bindi
24	152	58.9	29	24	ABU57605	Synthetic peptide
25	133	51.6	89	23	ABG67082	Streptavidin-bindi
26	133	51.6	89	24	ABU57604	Synthetic peptide
27	94	36.4	44	24	ABG67086	Streptavidin-nonbi
28	88	34.1	44	24	ABU57608	Streptavidin-bindi
29	70	27.1	102	23	ABG67065	Streptavidin-bindi
30	70	27.1	102	24	ABU57587	Streptavidin-bindi
31	68	26.4	101	23	ABG67066	Streptavidin-bindi
32	68	26.4	101	24	ABU57588	Streptavidin-bindi
33	63	24.4	145	23	ABP09375	Human ORFX protein
34	62	24.0	164	22	AAB63619	Human gastric canc
35	60.5	23.4	741	22	ABG25060	Novel human diagno
36	59.5	23.1	84	22	ABP34332	Human helicase-lik
37	59.5	23.1	342	21	AAB15903	E. coli proliferat
38	59.5	23.1	538	22	ABG25106	Novel human diagno
39	59	22.9	140	19	AAW40203	FRAP homolog. Cry
40	59	22.9	147	22	ABG54019	Human liver peptid
41	59	22.9	147	22	ABB39099	Peptide #6605 enco
42	59	22.9	147	22	ABB24009	Protein #6008 enco
43	59	22.9	147	22	AAM59751	Human brain expres
44	59	22.9	147	22	AAM72333	Human bone marrow
45	59	22.9	147	22	AAM19547	Peptide #5981 enco

ALIGNMENTS

```
RESULT 1
ABG67079
ID   ABG67079 standard; Peptide; 47 AA.
XX
AC   ABG67079;
XX
DT   24-SEP-2002  (first entry)
XX
DE   Streptavidin-binding peptide SB19 truncation mutant #5.
XX
KW   Streptavidin-binding peptide; mutant; mutein.
XX
OS   Escherichia coli.
XX
PN   WO200238580-A1.
XX
PD   16-MAY-2002.
XX
PF   31-OCT-2000; 2000WO-US41717.
XX
PR   31-OCT-2000; 2000WO-US41717.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2002-500155/53.
XX
PT   Novel peptide with high affinity for streptavidin, is expressed as part
PT   of fusion protein to facilitate detection, quantitation and
PT   purification of desired protein -
XX
```

PS   Claim 9; Fig 5; 56pp; English.
XX
CC   The invention describes a peptide (I) which binds streptavidin with a
CC   dissociation constant less than 10 muM or 23 nM, where the amino acid
CC   sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC   disulfide bonded or cyclised. A fusion protein comprising a protein of
CC   interest covalently linked to (I) is useful for purifying a desired
CC   protein from a sample by contacting the sample with streptavidin under
CC   conditions that allow complex formation between the fusion protein and
CC   the streptavidin, isolating the complex and recovering the fusion
CC   protein, and thus purifying the desired protein from the sample. The
CC   invention describes a method for producing a streptavidin-binding fusion
CC   protein. This sequence represents a truncation mutant of the
CC   streptavidin-binding peptide SB-19 isolated from Escherichia coli using a
CC   method described in the specification.
XX
SQ   Sequence   47 AA;

Query Match   100.0%;   Score 258; DB 23; Length 47;
Best Local Similarity   100.0%;   Pred. No. 1.7e-28;
Matches 47; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPMMSGGCKLG 47
         ||||||||||||||||||||||||||||||||||||||||||||||
Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPMMSGGCKLG 47

RESULT 2
ABU57601
ID   ABU57601 standard; Peptide; 47 AA.
XX
AC   ABU57601;
XX
DT   09-APR-2003 (first entry)
XX
DE   Synthetic peptide SB19 C-terminal deletion mutant, C4.
XX
KW   Streptavidin-binding peptide; mRNA display; peptide library;
KW   fusion protein; mutant; mutein; SB19.
XX
OS   Synthetic.
XX
PN   US2002155578-A1.
XX
PD   24-OCT-2002.
XX
PF   31-OCT-2001; 2001US-0004381.
XX
PR   31-OCT-2000; 2000US-244541P.
XX
PA   (SZOS/) SZOSTAK J W.
PA   (WILS/) WILSON D S.
PA   (KEEF/) KEEFE A D.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2003-182639/18.
XX
PT   Novel peptide which binds streptavidin with high affinity useful as
PT   affinity tags for purifying fusion proteins containing proteins of
PT   interest -
XX
PS   Claim 14; Fig 5; 36pp; English.
XX
CC   The invention relates to a peptide which binds streptavidin with a
CC   dissociation constant less than 10 micro M, where the peptide is not
CC   disulphide bonded or cyclised, or with a dissociation constant less than
CC   10 micro M, where the amino acid sequence of the peptide does not contain
CC   an HPQ, HPM, HPN or HQP motif. The peptides are generated by the mRNA
CC   display method to create a library of peptides. Also include are a
CC   nucleic acid encoding the peptide, a vector comprising the nucleic acid,
CC   a fusion protein (and its encoding nucleic acid/vector) comprising a
CC   protein of interest covalently linked to the streptavidin binding

CC   peptide and detecting the presence of the fusion protein in a sample
CC   using streptavidin or streptavidin-containing compounds. The fusion
CC   protein (which comprises the desired protein of interest covalently
CC   linked to the streptavidin binding peptide) is useful for purifying a
CC   protein of interest from a sample, which involves expressing the
CC   fusion protein in the sample, contacting the sample with streptavidin
CC   under conditions that allow complex formation between the fusion protein
CC   and the streptavidin, isolating the complex and recovering the fusion
CC   protein, thereby purifying the protein of interest from the sample.
CC   The present sequence is a mutated version of SB19, a streptavidin binding
CC   peptide of the invention. The mutants comprise 3 N-terminal deletions,
CC   3 C-terminal deletions and a truncated N-terminal peptide with point
CC   mutations.
XX
SQ   Sequence   47 AA;

Query Match   100.0%;   Score 258; DB 24; Length 47;
Best Local Similarity   100.0%;   Pred. No. 1.7e-28;
Matches 47; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPMMSGGCKLG 47
         ||||||||||||||||||||||||||||||||||||||||||||||
Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPMMSGGCKLG 47

RESULT 3
ABG67080
ID   ABG67080 standard; Peptide; 47 AA.
XX
AC   ABG67080;
XX
DT   24-SEP-2002 (first entry)
XX
DE   Streptavidin-binding peptide SB19 truncation mutant #6.
XX
KW   Streptavidin-binding peptide; mutant; mutein.
XX
OS   Escherichia coli.
XX
PN   WO200238580-A1.
XX
PD   16-MAY-2002.
XX
PF   31-OCT-2000; 2000WO-US41717.
XX
PR   31-OCT-2000; 2000WO-US41717.
XX
PA   (GEHO) GEN HOSPITAL CORP.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2002-500155/53.
XX
PT   Novel peptide with high affinity for streptavidin, is expressed as part
PT   of fusion protein to facilitate detection, quantitation and
PT   purification of desired protein -
XX
PS   Claim 9; Fig 5; 56pp; English.
XX
CC   The invention describes a peptide (I) which binds streptavidin with a
CC   dissociation constant less than 10 muM or 23 nM, where the amino acid
CC   sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC   disulfide bonded or cyclised. A fusion protein comprising a protein of
CC   interest covalently linked to (I) is useful for purifying a desired
CC   protein from a sample by contacting the sample with streptavidin under
CC   conditions that allow complex formation between the fusion protein and
CC   the streptavidin, isolating the complex and recovering the fusion
CC   protein, and thus purifying the desired protein from the sample. The
CC   invention describes a method for producing a streptavidin-binding fusion
CC   protein. This sequence represents a truncation mutant of the
CC   streptavidin-binding peptide SB-19 isolated from Escherichia coli using a
CC   method described in the specification.
XX

SQ   Sequence   47 AA;

Query Match   94.2%;   Score 243;   DB 23;   Length 47;
Best Local Similarity   95.7%;   Pred. No. 2.2e-26;
Matches   45;   Conservative   0;   Mismatches   2;   Indels   0;   Gaps   0;

```
Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPMMSGGCKLG 47
         ||||||||||||||||||||||||||||||| |||||||||||||
Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHGAGQREPMMSGGCKLG 47
```

RESULT 4
ABU57602
ID   ABU57602 standard; Peptide; 47 AA.
XX
AC   ABU57602;
XX
DT   09-APR-2003 (first entry)
XX
DE   Streptavidin-binding synthetic peptide SB19 point mutant M1.
XX
KW   Streptavidin-binding peptide; mRNA display; peptide library;
KW   fusion protein; mutant; mutein; SB19.
XX
OS   Synthetic.
XX
PN   US200215578-A1.
XX
PD   24-OCT-2002.
XX
PF   31-OCT-2001; 2001US-0004381.
XX
PR   31-OCT-2000; 2000US-244541P.
XX
PA   (SZOS/) SZOSTAK J W.
PA   (WILS/) WILSON D S.
PA   (KEEF/) KEEFE A D.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2003-182639/18.
XX
PT   Novel peptide which binds streptavidin with high affinity useful as
PT   affinity tags for purifying fusion proteins containing proteins of
PT   interest -
XX
PS   Claim 14; Fig 5; 36pp; English.
XX
CC   The invention relates to a peptide which binds streptavidin with a
CC   dissociation constant less than 10 micro M, where the peptide is not
CC   disulphide bonded or cyclised, or with a dissociation constant less than
CC   10 micro M, where the amino acid sequence of the peptide does not contain
CC   an HPQ, HPM, HPN or HQP motif. The peptides are generated by the mRNA
CC   display method to create a library of peptides. Also include are a
CC   nucleic acid encoding the peptide, a vector comprising the nucleic acid,
CC   a fusion protein (and its encoding nucleic acid/vector) comprising a
CC   protein of interest covalently linked to the streptavidin binding
CC   peptide and detecting the presence of the fusion protein in a sample
CC   using streptavidin or streptavidin-containing compounds. The fusion
CC   protein (which comprises the desired protein of interest covalently
CC   linked to the streptavidin binding peptide) is useful for purifying a
CC   protein of interest from a sample, which involves expressing the
CC   fusion protein in the sample, contacting the sample with streptavidin
CC   under conditions that allow complex formation between the fusion protein
CC   and the streptavidin, isolating the complex and recovering the fusion
CC   protein, thereby purifying the protein of interest from the sample.
CC   The present sequence is a mutated version of SB19, a streptavidin binding
CC   peptide of the invention. The mutants comprise 3 N-terminal deletions,
CC   3 C-terminal deletions and a truncated N-terminal peptide with point
CC   mutations.
XX
SQ   Sequence   47 AA;

Query Match   94.2%;   Score 243;   DB 24;   Length 47;
Best Local Similarity   95.7%;   Pred. No. 2.2e-26;
Matches   45;   Conservative   0;   Mismatches   2;   Indels   0;   Gaps   0;

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Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPMMSGGCKLG 47
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Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHGAGQREPMMSGGCKLG 47
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RESULT 5
ABG67078
ID   ABG67078 standard; Peptide; 61 AA.
XX
AC   ABG67078;
XX
DT   24-SEP-2002 (first entry)
XX
DE   Streptavidin-binding peptide SB19 truncation mutant #4.
XX
KW   Streptavidin-binding peptide; mutant; mutein.
XX
OS   Escherichia coli.
XX
PN   WO200238580-A1.
XX
PD   16-MAY-2002.
XX
PF   31-OCT-2000; 2000WO-US41717.
XX
PR   31-OCT-2000; 2000WO-US41717.
XX
PA   (GEHO) GEN HOSPITAL CORP.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2002-500155/53.
XX
PT   Novel peptide with high affinity for streptavidin, is expressed as part
PT   of fusion protein to facilitate detection, quantitation and
PT   purification of desired protein -
XX
PS   Claim 9; Fig 5; 56pp; English.
XX
CC   The invention describes a peptide (I) which binds streptavidin with a
CC   dissociation constant less than 10 mM or 23 nM, where the amino acid
CC   sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC   disulfide bonded or cyclised. A fusion protein comprising a protein of
CC   interest covalently linked to (I) is useful for purifying a desired
CC   protein from a sample by contacting the sample with streptavidin under
CC   conditions that allow complex formation between the fusion protein and
CC   the streptavidin, isolating the complex and recovering the fusion
CC   protein, and thus purifying the desired protein from the sample. The
CC   invention describes a method for producing a streptavidin-binding fusion
CC   protein. This sequence represents a truncation mutant of the
CC   streptavidin-binding peptide SB-19 isolated from Escherichia coli using a
CC   method described in the specification.
XX
SQ   Sequence   61 AA;

Query Match   93.4%;   Score 241;   DB 23;   Length 61;
Best Local Similarity   77.0%;   Pred. No. 5.6e-26;
Matches   47;   Conservative   0;   Mismatches   0;   Indels   14;   Gaps   1;

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Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP-----------MMSGGCKL 46
         |||||||||||||||||||||||||||||||  ||||||           ||||||||
Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHGAGQREPLVQEVDEGLVQMMSGGCKL 60

Qy   47 G 47
         |
Db   61 G 61
```

RESULT 6

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ABU57600
ID   ABU57600 standard; Peptide; 61 AA.
XX
AC   ABU57600;
XX
DT   09-APR-2003  (first entry)
XX
DE   Synthetic peptide SB19 C-terminal deletion mutant, C3.
XX
KW   Streptavidin-binding peptide; mRNA display; peptide library;
KW   fusion protein; mutant; mutein; SB19.
XX
OS   Synthetic.
XX
PN   US2002155578-A1.
XX
PD   24-OCT-2002.
XX
PF   31-OCT-2001; 2001US-0004381.
XX
PR   31-OCT-2000; 2000US-244541P.
XX
PA   (SZOS/) SZOSTAK J W.
PA   (WILS/) WILSON D S.
PA   (KEEF/) KEEFE A D.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2003-182639/18.
XX
PT   Novel peptide which binds streptavidin with high affinity useful as
PT   affinity tags for purifying fusion proteins containing proteins of
PT   interest -
XX
PS   Claim 14; Fig 5; 36pp; English.
XX
CC   The invention relates to a peptide which binds streptavidin with a
CC   dissociation constant less than 10 micro M, where the peptide is not
CC   disulphide bonded or cyclised, or with a dissociation constant less than
CC   10 micro M, where the amino acid sequence of the peptide does not contain
CC   an HPQ, HPM, HPN or HQP motif. The peptides are generated by the mRNA
CC   display method to create a library of peptides. Also include are a
CC   nucleic acid encoding the peptide, a vector comprising the nucleic acid,
CC   a fusion protein (and its encoding nucleic acid/vector) comprising a
CC   protein of interest covalently linked to the streptavidin binding
CC   peptide and detecting the presence of the fusion protein in a sample
CC   using streptavidin or streptavidin-containing compounds. The fusion
CC   protein (which comprises the desired protein of interest covalently
CC   linked to the streptavidin binding peptide) is useful for purifying a
CC   protein of interest from a sample, which involves expressing the
CC   fusion protein in the sample, contacting the sample with streptavidin
CC   under conditions that allow complex formation between the fusion protein
CC   and the streptavidin, isolating the complex and recovering the fusion
CC   protein, thereby purifying the protein of interest from the sample.
CC   The present sequence is a mutated version of SB19, a streptavidin binding
CC   peptide of the invention. The mutants comprise 3 N-terminal deletions,
CC   3 C-terminal deletions and a truncated N-terminal peptide with point
CC   mutations.
XX
SQ   Sequence   61 AA;

Query Match             93.4%;  Score 241; DB 24; Length 61;
Best Local Similarity   77.0%;  Pred. No. 5.6e-26;
Matches    47;  Conservative    0;  Mismatches    0;  Indels   14;  Gaps    1;

Qy          1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP------------MMSGGCKL 46
                ||||||||||||||||||||||||||||||||||||||            ||||||||
Db          1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPLVQEVEDVDEGLVQMMSGGCKL 60

Qy         47 G 47
              |
Db         61 G 61
```

```
RESULT 7
ABG67077
ID   ABG67077 standard; Peptide; 75 AA.
XX
AC   ABG67077;
XX
DT   24-SEP-2002  (first entry)
XX
DE   Streptavidin-binding peptide SB19 truncation mutant #3.
XX
KW   Streptavidin-binding peptide; mutant; mutein.
XX
OS   Escherichia coli.
XX
PN   WO200238580-A1.
XX
PD   16-MAY-2002.
XX
PF   31-OCT-2000; 2000WO-US41717.
XX
PR   31-OCT-2000; 2000WO-US41717.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2002-500155/53.
XX
PT   Novel peptide with high affinity for streptavidin, is expressed as part
PT   of fusion protein to facilitate detection, quantitation and
PT   purification of desired protein -
XX
PS   Claim 9; Fig 5; 56pp; English.
XX
CC   The invention describes a peptide (I) which binds streptavidin with a
CC   dissociation constant less than 10 muM or 23 nM, where the amino acid
CC   sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC   disulfide bonded or cyclised. A fusion protein comprising a protein of
CC   interest covalently linked to (I) is useful for purifying a desired
CC   protein from a sample by contacting the sample with streptavidin under
CC   conditions that allow complex formation between the fusion protein and
CC   the streptavidin, isolating the complex and recovering the fusion
CC   protein, and thus purifying the desired protein from the sample. The
CC   invention describes a method for producing a streptavidin-binding fusion
CC   protein. This sequence represents a truncation mutant of the
CC   streptavidin-binding peptide SB-19 isolated from Escherichia coli using a
CC   method described in the specification.
XX
SQ   Sequence   75 AA;

Query Match             90.7%;  Score 234; DB 23; Length 75;
Best Local Similarity   62.7%;  Pred. No. 6.7e-25;
Matches    47;  Conservative    0;  Mismatches    0;  Indels   28;  Gaps    1;

Qy          1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP--------------------- 38
                |||||||||||||||||||||||||||||||||||||
Db          1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPLVQEVEDVDEGLVQDLHGVVAG 60

Qy         39 ------MMSGGCKLG 47
                    ||||||||
Db         61 LLDPVEMMSGGCKLG 75
```

```
RESULT 8
ABU57599
ID   ABU57599 standard; Peptide; 75 AA.
XX
AC   ABU57599;
XX
DT   09-APR-2003  (first entry)
XX
DE   Synthetic peptide SB19 C-terminal deletion mutant, C2.
```

XX
KW   streptavidin-binding peptide; mRNA display; peptide library;
KW   fusion protein; mutant; mutein; SB19.
XX
OS   Synthetic.
XX
PN   US2002155578-A1.
XX
PD   24-OCT-2002.
XX
PF   31-OCT-2001; 2001US-0004381.
XX
PR   31-OCT-2000; 2000US-244541P.
XX
PA   (SZOS/) SZOSTAK J W.
PA   (WILS/) WILSON D S.
PA   (KEEF/) KEEFE A D.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2003-182639/18.
XX
PT   Novel peptide which binds streptavidin with high affinity useful as
PT   affinity tags for purifying fusion proteins containing proteins of
PT   interest -
XX
PS   Claim 14; Fig 5; 36pp; English.
XX
CC   The invention relates to a peptide which binds streptavidin with a
CC   dissociation constant less than 10 micro M, where the peptide is not
CC   disulphide bonded or cyclised, or with a dissociation constant less than
CC   10 micro M, where the amino acid sequence of the peptide does not contain
CC   an HPQ, HPM, HPN or HQP motif. The peptides are generated by the mRNA
CC   display method to create a library of peptides. Also include are a
CC   nucleic acid encoding the peptide, a vector comprising the nucleic acid,
CC   a fusion protein (and its encoding nucleic acid/vector) comprising a
CC   protein of interest covalently linked to the streptavidin binding
CC   peptide and detecting the presence of the fusion protein in a sample
CC   using streptavidin or streptavidin-containing compounds. The fusion
CC   protein (which comprises the desired protein of interest covalently
CC   linked to the streptavidin binding peptide) is useful for purifying a
CC   protein of interest from a sample, which involves expressing the
CC   fusion protein in the sample, contacting the sample with streptavidin
CC   under conditions that allow complex formation between the fusion protein
CC   and the streptavidin, isolating the complex and recovering the fusion
CC   protein, thereby purifying the protein of interest from the sample.
CC   The present sequence is a mutated version of SB19, a streptavidin binding
CC   peptide of the invention. The mutants comprise 3 N-terminal deletions,
CC   3 C-terminal deletions and a truncated N-terminal peptide with point
CC   mutations.
XX
SQ   Sequence 75 AA;

Query Match   90.7%;   Score 234; DB 24; Length 75;
Best Local Similarity 62.7%;   Pred. No. 6.7e-25;
Matches 47; Conservative 0; Mismatches 0; Indels 28; Gaps 1;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP------------------ 38
         ||||||||||||||||||||||||||||||||||||||
Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPLVQEVEDVDEGLVQDLHGVVAG 60

Qy 39 ------MMSGGCKLG 47
              ||||||||
Db 61 LLDPVEMMSGGCKLG 75

RESULT 9
ABG67076
ID   ABG67076 standard; Peptide; 89 AA.
XX
AC   ABG67076;
XX
DT   24-SEP-2002 (first entry)

XX
DE   Streptavidin-binding peptide SB19 truncation mutant #2.
XX
KW   Streptavidin-binding peptide; mutant; mutein.
XX
OS   Escherichia coli.
XX
PN   WO200238580-A1.
XX
PD   16-MAY-2002.
XX
PF   31-OCT-2000; 2000WO-US41717.
XX
PR   31-OCT-2000; 2000WO-US41717.
XX
PA   (GEHO) GEN HOSPITAL CORP.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2002-500155/53.
XX
PT   Novel peptide with high affinity for streptavidin, is expressed as part
PT   of fusion protein to facilitate detection, quantitation and
PT   purification of desired protein -
XX
PS   Claim 9; Fig 5; 56pp; English.
XX
CC   The invention describes a peptide (I) which binds streptavidin with a
CC   dissociation constant less than 10 muM or 23 nM, where the amino acid
CC   sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC   disulfide bonded or cyclised. A fusion protein comprising a protein of
CC   interest covalently linked to (I) is useful for purifying a desired
CC   protein from a sample by contacting the sample with streptavidin under
CC   conditions that allow complex formation between the fusion protein and
CC   the streptavidin, isolating the complex and recovering the fusion
CC   protein, and thus purifying the desired protein from the sample. The
CC   invention describes a method for producing a streptavidin-binding fusion
CC   protein. This sequence represents a truncation mutant of the
CC   streptavidin-binding peptide SB-19 isolated from Escherichia coli using a
CC   method described in the specification.
XX
SQ   Sequence 89 AA;

Query Match   88.0%;   Score 227; DB 23; Length 89;
Best Local Similarity 52.8%;   Pred. No. 7.7e-24;
Matches 47; Conservative 0; Mismatches 0; Indels 42; Gaps 1;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP------------------ 38
         |||||||||||||||||||||||||||||||||||||
Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPLVQEVEDVDEGLVQDLHGVVAG 60

Qy 39 ------MMSGGCKLG 47
              ||||||||
Db 61 LLDPVEKLLTDWFKFKNVSMMSGGCKLG 89

RESULT 10
ABU57598
ID   ABU57598 standard; Peptide; 89 AA.
XX
AC   ABU57598;
XX
DT   09-APR-2003 (first entry)
XX
DE   Synthetic peptide SB19 C-terminal deletion mutant, C1.
XX
KW   Streptavidin-binding peptide; mRNA display; peptide library;
KW   fusion protein; mutant; mutein; SB19.
XX
OS   Synthetic.
XX
PN   US2002155578-A1.
XX

```
PD   24-OCT-2002.
XX
PF   31-OCT-2001; 2001US-0004381.
XX
PR   31-OCT-2000; 2000US-244541P.
XX
PA   (SZOS/) SZOSTAK J W.
PA   (WILS/) WILSON D S.
PA   (KEEF/) KEEFE A D.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2003-182639/18.
XX
PT   Novel peptide which binds streptavidin with high affinity useful as
PT   affinity tags for purifying fusion proteins containing proteins of
PT   interest -
XX
PS   Claim 14; Fig 5; 36pp; English.
XX
CC   The invention relates to a peptide which binds streptavidin with a
CC   dissociation constant less than 10 micro M, where the peptide is not
CC   disulphide bonded or cyclised, or with a dissociation constant less than
CC   10 micro M, where the amino acid sequence of the peptide does not contain
CC   an HPQ, HPM, HPN or HQP motif. The peptides are generated by the mRNA
CC   display method to create a library of peptides. Also include are a
CC   nucleic acid encoding the peptide, a vector comprising the nucleic acid,
CC   a fusion protein (and its encoding nucleic acid/vector) comprising a
CC   protein of interest covalently linked to the streptavidin binding
CC   peptide and detecting the presence of the fusion protein in a sample
CC   using streptavidin or streptavidin-containing compounds. The fusion
CC   protein (which comprises the desired protein of interest covalently
CC   linked to the streptavidin binding peptide) is useful for purifying a
CC   protein of interest from a sample, which involves expressing the
CC   fusion protein in the sample, contacting the sample with streptavidin
CC   under conditions that allow complex formation between the fusion protein
CC   and the streptavidin, isolating the complex and recovering the fusion
CC   protein, thereby purifying the protein of interest from the sample.
CC   The present sequence is a mutated version of SB19, a streptavidin binding
CC   peptide of the invention. The mutants comprise 3 N-terminal deletions,
CC   3 C-terminal deletions and a truncated N-terminal peptide with point
CC   mutations.
XX
SQ   Sequence 89 AA;

Query Match             88.0%;  Score 227;  DB 24;  Length 89;
Best Local Similarity   52.8%;  Pred. No. 7.7e-24;
Matches 47;  Conservative 0;  Mismatches 0;  Indels 42;  Gaps 1;

Qy    1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP------------------------ 38
          |||||||||||||||||||||||||||||||||||||
Db    1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPLVQEVEDVDEGLVQDLHGVVAG 60

Qy   39 ------------MMSGGGCKLG 47
                      ||||||||
Db   61 LLDPVEKLLTDWFKFKNVSMNSGGCKLG 89

RESULT 11
ABG67075
ID   ABG67075 standard; Peptide; 101 AA.
XX
AC   ABG67075;
XX
DT   24-SEP-2002  (first entry)
XX
DE   Streptavidin-binding peptide SB19 truncation mutant #1.
XX
KW   Streptavidin-binding peptide; mutant; mutein.
XX
OS   Escherichia coli.
OS   Synthetic.
XX
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```
PN   WO200238580-A1.
XX
PD   16-MAY-2002.
XX
PF   31-OCT-2000; 2000WO-US41717.
XX
PR   31-OCT-2000; 2000WO-US41717.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2002-500155/53.
XX
PT   Novel peptide with high affinity for streptavidin, is expressed as part.
PT   of fusion protein to facilitate detection, quantitation and
PT   purification of desired protein -
XX
PS   Claim 9; Fig 5; 56pp; English.
XX
CC   The invention describes a peptide (I) which binds streptavidin with a
CC   dissociation constant less than 10 muM or 23 nM, where the amino acid
CC   sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC   disulfide bonded or cyclised. A fusion protein comprising a protein of
CC   interest covalently linked to (I) is useful for purifying a desired
CC   protein from a sample by contacting the sample with streptavidin under
CC   conditions that allow complex formation between the fusion protein and
CC   the streptavidin, isolating the complex and recovering the fusion
CC   protein, and thus purifying the desired protein from the sample. The
CC   invention describes a method for producing a streptavidin-binding fusion
CC   protein. This sequence represents a truncation mutant of the
CC   streptavidin-binding peptide SB-19 isolated from Escherichia coli using a
CC   method described in the specification.
XX
SQ   Sequence 101 AA;

Query Match             82.9%;  Score 214;  DB 23;  Length 101;
Best Local Similarity   44.6%;  Pred. No. 5.8e-22;
Matches 45;  Conservative 2;  Mismatches 0;  Indels 54;  Gaps 1;

Qy    1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPMM---------------------- 40
          |||||||||||||||||||||||||||||||||||||::
Db    1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPLVQEVEDVDEGLVQDLHGVVAG 60

Qy   41 ----------------SGGCKLG 47
                          |||||||
Db   61 LLDPVEKLLTDWFKKFKNVSKDCKMTFYLEMYDWSGGCKLG 101

RESULT 12
ABU57597
ID   ABU57597 standard; Peptide; 101 AA.
XX
AC   ABU57597;
XX
DT   09-APR-2003  (first entry)
XX
DE   Streptavidin-binding synthetic peptide SB19 full length peptide.
XX
KW   Streptavidin-binding peptide; mRNA display; peptide library;
KW   fusion protein.
XX
OS   Synthetic.
XX
PN   US2002155578-A1.
XX
PD   24-OCT-2002.
XX
PF   31-OCT-2001; 2001US-0004381.
XX
PR   31-OCT-2000; 2000US-244541P.
XX
PA   (SZOS/) SZOSTAK J W.
```

```
PA   (WILS/) WILSON D S.
PA   (KEEF/) KEEFE A D.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2003-182639/18.
XX
PT   Novel peptide which binds streptavidin with high affinity useful as
PT   affinity tags for purifying fusion proteins containing proteins of
PT   interest -
XX
PS   Claim 14; Fig 5; 36pp; English.
XX
CC   The invention relates to a peptide which binds streptavidin with a
CC   dissociation constant less than 10 micro M, where the peptide is not
CC   disulphide bonded or cyclised, or with a dissociation constant less than
CC   10 micro M, where the amino acid sequence of the peptide does not contain
CC   an HPQ, HPM, HPN or HQP motif. The peptides are generated by the mRNA
CC   display method to create a library of peptides. Also include are a
CC   nucleic acid encoding the peptide, a vector comprising the nucleic acid,
CC   a fusion protein (and its encoding nucleic acid/vector) comprising a
CC   protein of interest covalently linked to the streptavidin binding
CC   peptide and detecting the presence of the fusion protein in a sample
CC   using streptavidin or streptavidin-containing compounds. The fusion
CC   protein (which comprises the desired protein of interest covalently
CC   linked to the streptavidin binding peptide) is useful for purifying a
CC   protein of interest from a sample, which involves expressing the
CC   fusion protein in the sample, contacting the sample with streptavidin
CC   under conditions that allow complex formation between the fusion protein
CC   and the streptavidin, isolating the complex and recovering the fusion
CC   protein, thereby purifying the protein of interest from the sample.
CC   The present sequence is a streptavidin binding peptide of the invention.
XX
SQ   Sequence.   101 AA;

Query Match         82.9%;  Score 214;  DB 24;  Length 101;
Best Local Similarity   44.6%;  Pred. No. 5.8e-22;
Matches  45;  Conservative   2;  Mismatches   0;  Indels  54;  Gaps   1;

Qy    1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPMM------------ 40
            ||||||||||||||||||||||||||||||||||||||::
Db    1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPLVQEVDVDEGLVQDLHGVVAG 60

Qy   41  ------------------------SGGCKLG 47
                                 ||||||
Db   61  LLDPVEKLLTDWFKKFKNVSKDCKMTFYLEMYDWSGGCKLG 101

RESULT 13
ABG67073
ID   ABG67073 standard; Peptide; 101 AA.
XX
AC   ABG67073;
XX
DT   24-SEP-2002  (first entry)
XX
DE   Streptavidin-binding peptide SB19.
XX
KW   Streptavidin-binding peptide.
XX
OS   Escherichia coli.
XX
PN   WO200238580-A1.
XX
PD   16-MAY-2002.
XX
PF   31-OCT-2000; 2000WO-US41717.
XX
PR   31-OCT-2000; 2000WO-US41717.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2002-500155/53.
XX
PT   Novel peptide with high affinity for streptavidin, is expressed as part
PT   of fusion protein to facilitate detection, quantitation and
PT   purification of desired protein -
XX
PS   Claim 9; Fig 3; 56pp; English.
XX
CC   The invention describes a peptide (I) which binds streptavidin with a
CC   dissociation constant less than 10 muM or 23 nM, where the amino acid
CC   sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC   disulfide bonded or cyclised. A fusion protein comprising a protein of
CC   interest covalently linked to (I) is useful for purifying a desired
CC   protein from a sample by contacting the sample with streptavidin under
CC   conditions that allow complex formation between the fusion protein and
CC   the streptavidin, isolating the complex and recovering the fusion
CC   protein, and thus purifying the desired protein from the sample. The
CC   invention describes a method for producing a streptavidin-binding fusion
CC   protein. This sequence represents a streptavidin-binding peptide isolated
CC   from Escherichia coli using a method described in the specification.
XX
SQ   Sequence   101 AA;

Query Match         81.8%;  Score 211;  DB 23;  Length 101;
Best Local Similarity   95.0%;  Pred. No. 1.5e-21;
Matches  38;  Conservative   2;  Mismatches   0;  Indels   0;  Gaps   0;

Qy    1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPMM 40
            ||||||||||||||||||||||||||||||||||||||||
Db    1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREPLV 40

RESULT 14
ABU57595
ID   ABU57595 standard; Peptide; 101 AA.
XX
AC   ABU57595;
XX
DT   09-APR-2003  (first entry)
XX
DE   Streptavidin-binding synthetic peptide SB19.
XX
KW   Streptavidin-binding peptide; mRNA display; peptide library;
KW   fusion protein.
XX
OS   Synthetic.
XX
PN   US2002155578-A1.
XX
PD   24-OCT-2002.
XX
PF   31-OCT-2001; 2001US-0004381.
XX
PR   31-OCT-2000; 2000US-244541P.
XX
PA   (SZOS/) SZOSTAK J W.
PA   (WILS/) WILSON D S.
PA   (KEEF/) KEEFE A D.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2003-182639/18.
XX
PT   Novel peptide which binds streptavidin with high affinity useful as
PT   affinity tags for purifying fusion proteins containing proteins of
PT   interest -
XX
PS   Claim 14; Fig 3; 36pp; English.
XX
CC   The invention relates to a peptide which binds streptavidin with a
CC   dissociation constant less than 10 micro M, where the peptide is not
CC   disulphide bonded or cyclised, or with a dissociation constant less than
```

CC   _10 micro M, where the amino acid sequence of the peptide does not contain
CC   an HPQ, HPM, HPN or HQP motif. The peptides are generated by the mRNA
CC   display method to create a library of peptides. Also include are a
CC   nucleic acid encoding the peptide, a vector comprising the nucleic acid,
CC   a fusion protein (and its encoding nucleic acid/vector) comprising a
CC   protein of interest covalently linked to the streptavidin binding
CC   peptide and detecting the presence of the fusion protein in a sample
CC   using streptavidin or streptavidin-containing compounds. The fusion
CC   protein (which comprises the desired protein of interest covalently
CC   linked to the streptavidin binding peptide) is useful for purifying a
CC   protein of interest from a sample, which involves expressing the
CC   fusion protein in the sample, contacting the sample with streptavidin
CC   under conditions that allow complex formation between the fusion protein
CC   and the streptavidin, isolating the complex and recovering the fusion
CC   protein, thereby purifying the protein of interest from the sample.
CC   The present sequence is a streptavidin binding peptide of the invention.
XX
SQ   Sequence 101 AA;

Query Match   81.8%;   Score 211;   DB 24;   Length 101;
Best Local Similarity 95.0%;   Pred. No. 1.5e-21;
Matches 38;   Conservative 2;   Mismatches 0;   Indels 0;   Gaps 0;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPGQREPMM 40
       ||||||||||||||||||||||||||||||||||||::
Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPGQREPLV 40

RESULT 15
ABG67087
ID   ABG67087 standard; Peptide; 38 AA.
XX
AC   ABG67087;
XX
DT   24-SEP-2002 (first entry)
XX
DE   Streptavidin-binding peptide and affinity tag.
XX
KW   Streptavidin-binding peptide.
XX
OS   Synthetic.
XX
PN   WO200238580-A1.
XX
PD   16-MAY-2002.
XX
PF   31-OCT-2000; 2000WO-US41717.
XX
PR   31-OCT-2000; 2000WO-US41717.
XX
PA   (GEHO) GEN HOSPITAL CORP.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2002-500155/53.
XX
PT   Novel peptide with high affinity for streptavidin, is expressed as part
PT   of fusion protein to facilitate detection, quantitation and
PT   purification of desired protein -
XX
PS   Claim 13; Fig 7A; 56pp; English.
XX
CC   The invention describes a peptide (I) which binds streptavidin with a
CC   dissociation constant less than 10 muM or 23 nM, where the amino acid
CC   sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC   disulfide bonded or cyclised. A fusion protein comprising a protein of
CC   interest covalently linked to (I) is useful for purifying a desired
CC   protein from a sample by contacting the sample with streptavidin under
CC   conditions that allow complex formation between the fusion protein and
CC   the streptavidin, isolating the complex and recovering the fusion
CC   protein, and thus purifying the desired protein from the sample. The
CC   invention describes a method for producing a streptavidin-binding fusion
CC   protein. This sequence represents a streptavidin-binding peptide used in

CC   the creation of streptavidin-binding DNA-tagged peptide described in the
CC   invention.
XX
SQ   Sequence 38 AA;

Query Match   80.6%;   Score 208;   DB 23;   Length 38;
Best Local Similarity 100.0%;   Pred. No. 1.3e-21;
Matches 38;   Conservative 0;   Mismatches 0;   Indels 0;   Gaps 0;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPGQREP 38
       |||||||||||||||||||||||||||||||||||||
Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPGQREP 38

Search completed: February 6, 2004, 16:40:31
Job time : 61 secs

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                GenCore version 5.1.6
        Copyright (c) 1993 - 2004  Compugen Ltd.

OM protein - protein search, using sw model

Run on:  February  6, 2004, 17:14:57 ; Search time 41 Seconds
                                        (without alignments)
                                        181.955 Million cell updates/sec

Title:           US-10-004-381-25
Perfect score:   47
Sequence:        1 MDEKTTGWRGGHVVEGLAGE........LEHHPQGQREPMMSGGCKLG 47

Scoring table:   OLIGO
                 Gapop 60.0 , Gapext 60.0

Searched:        1107863 seqs, 158726573 residues

Word size :      10

Total number of hits satisfying chosen parameters:     26

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Listing first 45 summaries

Database :  A_Geneseq_19Jun03:*
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   22:  /SIDS1/gcgdata/geneseq/geneseqp-embl/AA2001.DAT:*
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   24:  /SIDS1/gcgdata/geneseq/geneseqp-embl/AA2003.DAT:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

                        SUMMARIES
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| | | % Query | | | | |
Result No.	Score	Match	Length	DB	ID	Description
1	47	100.0	47	23	ABG67079	Streptavidin-bindi
2	47	100.0	47	24	ABU57601	Synthetic peptide
3	38	80.9	38	23	ABG67087	Streptavidin-bindi
4	38	80.9	38	24	ABU57609	Streptavidin-bindi
5	38	80.9	61	23	ABG67078	Streptavidin-bindi
6	38	80.9	61	24	ABU57600	Synthetic peptide
7	38	80.9	75	23	ABG67077	Streptavidin-bindi
8	38	80.9	75	24	ABU57599	Synthetic peptide
9	38	80.9	89	23	ABG67076	Streptavidin-bindi
10	38	80.9	89	24	ABU57598	Synthetic peptide
11	38	80.9	101	23	ABG67073	Streptavidin-bindi
12	38	80.9	101	23	ABG67075	Streptavidin-bindi
13	38	80.9	101	24	ABU57595	Streptavidin-bindi
14	38	80.9	101	24	ABU57597	Streptavidin-bindi
15	38	80.9	426	23	ABG67091	Maltose-binding pr
16	38	80.9	426	24	ABU57613	Streptavidin-bindi
17	38	80.9	479	23	ABG67089	Maltose-binding pr
18	38	80.9	479	24	ABU57611	Streptavidin-bindi
19	37	78.7	39	24	ABG67081	Streptavidin-bindi
20	37	78.7	39	24	ABU57603	Synthetic peptide
21	31	66.0	47	23	ABG67080	Streptavidin-bindi
22	31	66.0	47	24	ABU57602	Streptavidin-bindi
23	28	59.6	29	23	ABG67083	Streptavidin-bindi
24	28	59.6	29	24	ABU57605	Synthetic peptide
25	24	51.1	89	23	ABG67082	Streptavidin-bindi
26	24	51.1	89	24	ABU57604	Synthetic peptide

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                                        ALIGNMENTS

RESULT 1
ABG67079
ID   ABG67079 standard; Peptide; 47 AA.
XX
AC   ABG67079;
XX
DT   24-SEP-2002  (first entry)
XX
DE   Streptavidin-binding peptide SB19 truncation mutant #5.
XX
KW   Streptavidin-binding peptide; mutant; mutein.
XX
OS   Escherichia coli.
XX
PN   WO200238580-A1.
XX
PD   16-MAY-2002.
XX
PF   31-OCT-2000; 2000WO-US41717.
XX
PR   31-OCT-2000; 2000WO-US41717.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2002-500155/53.
XX
PT   Novel peptide with high affinity for streptavidin, is expressed as part
PT   of fusion protein to facilitate detection, quantitation and
PT   purification of desired protein -
XX
PS   Claim 9; Fig 5; 56pp; English.
XX
CC   The invention describes a peptide (I) which binds streptavidin with a
CC   dissociation constant less than 10 muM or 23 nM, where the amino acid
CC   sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC   disulfide bonded or cyclised. A fusion protein comprising a protein of
CC   interest covalently linked to (I) is useful for purifying a desired
CC   protein from a sample by contacting the sample with streptavidin under
CC   conditions that allow complex formation between the fusion protein and
CC   the streptavidin, isolating the complex and recovering the fusion
CC   protein, and thus purifying the desired protein from the sample. The
CC   invention describes a method for producing a streptavidin-binding fusion
CC   protein. This sequence represents a truncation mutant of the
CC   streptavidin-binding peptide SB-19 isolated from Escherichia coli using a
CC   method described in the specification.
XX
SQ   Sequence   47 AA;

Query Match   100.0%;   Score 47;   DB 23;   Length 47;
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Best Local Similarity 100.0%; Pred. No.1.3e-42;
Matches 47; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQQREPMMSGGCKLG 47
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Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQQREPMMSGGCKLG 47

RESULT 2
ABU57601
ID   ABU57601 standard; Peptide; 47 AA.
XX
AC   ABU57601;
XX
DT   09-APR-2003 (first entry)
XX
DE   Synthetic peptide SB19 C-terminal deletion mutant, C4.
XX
KW   Streptavidin-binding peptide; mRNA display; peptide library;
KW   fusion protein; mutant; mutein; SB19.
XX
OS   Synthetic.
XX
PN   US2002155578-A1.
XX
PD   24-OCT-2002.
XX
PF   31-OCT-2001; 2001US-0004381.
XX
PR   31-OCT-2000; 2000US-244541P.
XX
PA   (SZOS/) SZOSTAK J W.
PA   (WILS/) WILSON D S.
PA   (KEEF/) KEEFE A D.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2003-182639/18.
XX
PT   Novel peptide which binds streptavidin with high affinity useful as
PT   affinity tags for purifying fusion proteins containing proteins of
PT   interest -
XX
PS   Claim 14; Fig 5; 36pp; English.
XX
CC   The invention relates to a peptide which binds streptavidin with a
CC   dissociation constant less than 10 micro M, where the peptide is not
CC   disulphide bonded or cyclised, or with a dissociation constant less than
CC   10 micro M, where the amino acid sequence of the peptide does not contain
CC   an HPQ, HPM, HPN or HQP motif. The peptides are generated by the mRNA
CC   display method to create a library of peptides. Also include are a
CC   nucleic acid encoding the peptide, a vector comprising the nucleic acid,
CC   a fusion protein (and its encoding nucleic acid/vector) comprising a
CC   protein of interest covalently linked to the streptavidin binding
CC   peptide and detecting the presence of the fusion protein in a sample
CC   using streptavidin or streptavidin-containing compounds. The fusion
CC   protein (which comprises the desired protein of interest covalently
CC   linked to the streptavidin binding peptide) is useful for purifying a
CC   protein of interest from a sample, which involves expressing the
CC   fusion protein in a sample, contacting the sample with streptavidin
CC   under conditions that allow complex formation between the fusion protein
CC   and the streptavidin, isolating the complex and recovering the fusion
CC   protein, thereby purifying the protein of interest from the sample. The
CC   present sequence is a mutated version of SB19, a streptavidin binding
CC   peptide of the invention. The mutants comprise 3 N-terminal deletions,
CC   3 C-terminal deletions and a truncated N-terminal peptide with point
CC   mutations.
XX
SQ   Sequence   47 AA;

Query Match   100.0%; Score 47; DB 24; Length 47;
Best Local Similarity 100.0%; Pred. No. 1.3e-42;
Matches 47; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQQREPMMSGGCKLG 47
          |||||||||||||||||||||||||||||||||||||||||||||||
Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQQREPMMSGGCKLG 47

RESULT 3
ABG67087
ID   ABG67087 standard; Peptide; 38 AA.
XX
AC   ABG67087;
XX
DT   24-SEP-2002 (first entry)
XX
DE   Streptavidin-binding peptide and affinity tag.
XX
KW   Streptavidin-binding peptide.
XX
OS   Synthetic.
XX
PN   WO200238580-A1.
XX
PD   16-MAY-2002.
XX
PF   31-OCT-2000; 2000WO-US41717.
XX
PR   31-OCT-2000; 2000WO-US41717.
XX
PA   (GEHO) GEN HOSPITAL CORP.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2002-500155/53.
XX
PT   Novel peptide with high affinity for streptavidin, is expressed as part
PT   of fusion protein to facilitate detection, quantitation and
PT   purification of desired protein -
XX
PS   Claim 13; Fig 7A; 56pp; English.
XX
CC   The invention describes a peptide (I) which binds streptavidin with a
CC   dissociation constant less than 10 muM or 23 nM, where the amino acid
CC   sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC   disulfide bonded or cyclised. A fusion protein comprising a protein of
CC   interest covalently linked to (I) is useful for purifying a desired
CC   protein from a sample by contacting the sample with streptavidin under
CC   conditions that allow complex formation between the fusion protein and
CC   the streptavidin, isolating the complex and recovering the fusion
CC   protein, and thus purifying the desired protein from the sample. The
CC   invention describes a method for producing a streptavidin-binding fusion
CC   protein. This sequence represents a streptavidin-binding peptide used in
CC   the creation of streptavidin-binding DNA-tagged peptide described in the
CC   invention.
XX
SQ   Sequence   38 AA;

Query Match   80.9%; Score 38; DB 23; Length 38;
Best Local Similarity 100.0%; Pred. No.4.1e-33;
Matches 38; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQQREP 38
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Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQQREP 38

RESULT 4
ABU57609
ID   ABU57609 standard; Peptide; 38 AA.
XX
AC   ABU57609;
XX
DT   09-APR-2003 (first entry)
XX

```
DE   Streptavidin-binding synthetic peptide SB19 C4 N-terminal affinity tag.
XX
KW   streptavidin-binding peptide; mRNA display; peptide library;
KW   fusion protein; SB19.
XX
OS   Synthetic.
XX
PN   US2002155578-A1.
XX
PD   24-OCT-2002.
XX
PF   31-OCT-2001; 2001US-0004381.
XX
PR   31-OCT-2000; 2000US-244541P.
XX
PA   (SZOS/) SZOSTAK J W.
PA   (WILS/) WILSON D S.
PA   (KEEF/) KEEFE A D.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2003-182639/18.
XX
PT   Novel peptide which binds streptavidin with high affinity useful as
PT   affinity tags for purifying fusion proteins containing proteins of
PT   interest -
XX
PS   Claim 14; Fig 7A; 36pp; English.
XX
CC   The invention relates to a peptide which binds streptavidin with a
CC   dissociation constant less than 10 micro M, where the peptide is not
CC   disulphide bonded or cyclised, or with a dissociation constant less than
CC   10 micro M, where the amino acid sequence of the peptide does not contain
CC   an HPQ, HPM, HPN or HQP motif. The peptides are generated by the mRNA
CC   display method to create a library of peptides. Also include are a
CC   nucleic acid encoding the peptide, a vector comprising the nucleic acid,
CC   a fusion protein (and its encoding nucleic acid/vector) comprising a
CC   protein of interest covalently linked to the streptavidin binding
CC   peptide and detecting the presence of the fusion protein in a sample
CC   using streptavidin or streptavidin-containing compounds. The fusion
CC   protein (which comprises the desired protein of interest covalently
CC   linked to the streptavidin binding peptide) is useful for purifying a
CC   protein of interest from a sample, which involves expressing the
CC   fusion protein in the sample, contacting the sample with streptavidin
CC   under conditions that allow complex formation between the fusion protein
CC   and the streptavidin, isolating the complex and recovering the fusion
CC   protein, thereby purifying the protein of interest from the sample.
CC   The present sequence is streptavidin binding peptide SB19,
CC   N-terminus, used as an affinity tag to purify fusion proteins.
XX
SQ   Sequence 38 AA;

Query Match         80.9%;  Score 38;  DB 24;  Length 38;
Best Local Similarity  100.0%;  Pred. No. 4.1e-33;
Matches 38;  Conservative 0;  Mismatches 0;  Indels 0;  Gaps 0;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
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Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 5
ABG67078
ID   ABG67078 standard; Peptide; 61 AA.
XX
AC   ABG67078;
XX
DT   24-SEP-2002 (first entry)
XX
DE   Streptavidin-binding peptide SB19 truncation mutant #4.
XX
KW   Streptavidin-binding peptide; mutant; mutein.
XX
OS   Escherichia coli.
XX
PN   WO200238580-A1.
XX
PD   16-MAY-2002.
XX
PF   31-OCT-2000; 2000WO-US41717.
XX
PR   31-OCT-2000; 2000WO-US41717.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2002-500155/53.
XX
PT   Novel peptide with high affinity for streptavidin, is expressed as part
PT   of fusion protein to facilitate detection, quantitation and
PT   purification of desired protein -
XX
PS   Claim 9; Fig 5; 56pp; English.
XX
CC   The invention describes a peptide (I) which binds streptavidin with a
CC   dissociation constant less than 10 muM or 23 nM, where the amino acid
CC   sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC   disulfide bonded or cyclised. A fusion protein comprising a protein of
CC   interest covalently linked to (I) is useful for purifying a desired
CC   protein from a sample by contacting the sample with streptavidin under
CC   conditions that allow complex formation between the fusion protein and
CC   the streptavidin, isolating the complex and recovering the fusion
CC   protein, and thus purifying the desired protein from the sample. The
CC   invention describes a method for producing a streptavidin-binding fusion
CC   protein. This sequence represents a truncation mutant of the
CC   streptavidin-binding peptide SB-19 isolated from Escherichia coli using a
CC   method described in the specification.
XX
SQ   Sequence 61 AA;

Query Match         80.9%;  Score 38;  DB 23;  Length 61;
Best Local Similarity  100.0%;  Pred. No. 6.3e-33;
Matches 38;  Conservative 0;  Mismatches 0;  Indels 0;  Gaps 0;

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Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 6
ABU57600
ID   ABU57600 standard; Peptide; 61 AA.
XX
AC   ABU57600;
XX
DT   09-APR-2003 (first entry)
XX
DE   Synthetic peptide SB19 C-terminal deletion mutant, C3.
XX
KW   streptavidin-binding peptide; mRNA display; peptide library;
KW   fusion protein; mutant; mutein; SB19.
XX
OS   Synthetic.
XX
PN   US2002155578-A1.
XX
PD   24-OCT-2002.
XX
PF   31-OCT-2001; 2001US-0004381.
XX
PR   31-OCT-2000; 2000US-244541P.
XX
PA   (SZOS/) SZOSTAK J W.
PA   (WILS/) WILSON D S.
PA   (KEEF/) KEEFE A D.
```

XX
PI Szostak JW, Wilson DS, Keefe AD;
XX
DR WPI; 2003-182639/18.
XX
PT Novel peptide which binds streptavidin with high affinity useful as
PT affinity tags for purifying fusion proteins containing proteins of
PT interest -
XX
PS Claim 14; Fig 5; 36pp; English.
XX
CC The invention relates to a peptide which binds streptavidin with a
CC dissociation constant less than 10 micro M, where the peptide is not
CC disulphide bonded or cyclised, or with a dissociation constant less than
CC 10 micro M, where the amino acid sequence of the peptide does not contain
CC an HPQ, HPM, HPN or HQP motif. The peptides are generated by the mRNA
CC display method to create a library of peptides. Also include are a
CC nucleic acid encoding the peptide, a vector comprising the nucleic acid,
CC a fusion protein (and its encoding nucleic acid/vector) comprising a
CC protein of interest covalently linked to the streptavidin binding
CC peptide and detecting the presence of the fusion protein in a sample
CC using streptavidin or streptavidin-containing compounds. The fusion
CC protein (which comprises the desired protein of interest covalently
CC linked to the streptavidin binding peptide) is useful for purifying a
CC protein of interest from a sample, which involves expressing the
CC fusion protein in the sample, contacting the sample with streptavidin
CC under conditions that allow complex formation between the fusion protein
CC and the streptavidin, isolating the complex and recovering the fusion
CC protein, thereby purifying the protein of interest from the sample.
CC The present sequence is a mutated version of SB19, a streptavidin binding
CC peptide of the invention. The mutants comprise 3 N-terminal deletions,
CC 3 C-terminal deletions and a truncated N-terminal peptide with point
CC mutations.
XX
SQ Sequence 61 AA;

Query Match　　　80.9%; Score 38; DB 24; Length 61;
Best Local Similarity　100.0%; Pred.No. 6.3e-33;
Matches　 38; Conservative　 0; Mismatches　 0; Indels　 0; Gaps　 0;

Qy　　1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
　　　　　|||||||||||||||||||||||||||||||||||||
Db　　1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 7
ABG67077
ID ABG67077 standard; Peptide; 75 AA.
XX
AC ABG67077;
XX
DT 24-SEP-2002 (first entry)
XX
DE Streptavidin-binding peptide SB19 truncation mutant #3.
XX
KW Streptavidin-binding peptide; mutant; mutein.
XX
OS Escherichia coli.
XX
PN WO200238580-A1.
XX
PD 16-MAY-2002.
XX
PF 31-OCT-2000; 2000WO-US41717.
XX
PR 31-OCT-2000; 2000WO-US41717.
XX
PA (GEHO) GEN HOSPITAL CORP.
XX
PI Szostak JW, Wilson DS, Keefe AD;
XX
DR WPI; 2002-500155/53.
XX

XX
PT Novel peptide with high affinity for streptavidin, is expressed as part
PT of fusion protein to facilitate detection, quantitation and
PT purification of desired protein -
XX
PS Claim 9; Fig 5; 56pp; English.
XX
CC The invention describes a peptide (I) which binds streptavidin with a
CC dissociation constant less than 10 muM or 23 nM, where the amino acid
CC sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC disulfide bonded or cyclised. A fusion protein comprising a protein of
CC interest covalently linked to (I) is useful for purifying a desired
CC protein from a sample by contacting the sample with streptavidin under
CC conditions that allow complex formation between the fusion protein and
CC the streptavidin, isolating the complex and recovering the fusion
CC protein, and thus purifying the desired protein from the sample. The
CC invention describes a method for producing a streptavidin-binding fusion
CC protein. This sequence represents a truncation mutant of the
CC streptavidin-binding peptide SB-19 isolated from Escherichia coli using a
CC method described in the specification.
XX
SQ Sequence 75 AA;

Query Match　　　80.9%; Score 38; DB 23; Length 75;
Best Local Similarity　100.0%; Pred.No. 7.5e-33;
Matches　 38; Conservative　 0; Mismatches　 0; Indels　 0; Gaps　 0;

Qy　　1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
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Db　　1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 8
ABU57599
ID ABU57599 standard; Peptide; 75 AA.
XX
AC ABU57599;
XX
DT 09-APR-2003 (first entry)
XX
DE Synthetic peptide SB19 C-terminal deletion mutant, C2.
XX
KW Streptavidin-binding peptide; mRNA display; peptide library;
KW fusion protein; mutant; mutein; SB19.
XX
OS Synthetic.
XX
PN US2002155578-A1.
XX
PD 24-OCT-2002.
XX
PF 31-OCT-2001; 2001US-0004381.
XX
PR 31-OCT-2000; 2000US-244541P.
XX
PA (SZOS/) SZOSTAK J W.
PA (WILS/) WILSON D S.
PA (KEEF/) KEEFE A D.
XX
PI Szostak JW, Wilson DS, Keefe AD;
XX
DR WPI; 2003-182639/18.
XX
PT Novel peptide which binds streptavidin with high affinity useful as
PT affinity tags for purifying fusion proteins containing proteins of
PT interest -
XX
PS Claim 14; Fig 5; 36pp; English.
XX
CC The invention relates to a peptide which binds streptavidin with a
CC dissociation constant less than 10 micro M, where the peptide is not
CC disulphide bonded or cyclised, or with a dissociation constant less than
CC 10 micro M, where the amino acid sequence of the peptide does not contain
CC an HPQ, HPM, HPN or HQP motif. The peptides are generated by the mRNA

```
CC   display method to create a library of peptides. Also include are a
CC   nucleic acid encoding the peptide, a vector comprising the nucleic acid,
CC   a fusion protein (and its encoding nucleic acid/vector) comprising a
CC   protein of interest covalently linked to the streptavidin binding
CC   peptide and detecting the presence of the fusion protein in a sample
CC   using streptavidin or streptavidin-containing compounds. The fusion
CC   protein (which comprises the desired protein of interest covalently
CC   linked to the streptavidin binding peptide) is useful for purifying a
CC   protein of interest from a sample, which involves expressing the
CC   fusion protein in the sample, contacting the sample with streptavidin
CC   under conditions that allow complex formation between the fusion protein
CC   and the streptavidin, isolating the complex and recovering the fusion
CC   protein, thereby purifying the protein of interest from the sample.
CC   The present sequence is a mutated version of SB19, a streptavidin binding
CC   peptide of the invention. The mutants comprise 3 N-terminal deletions,
CC   3 C-terminal deletions and a truncated N-terminal peptide with point
CC   mutations.
XX
SQ   Sequence   75 AA;
XX

Query Match             80.9%;   Score 38;   DB 24;   Length 75;
Best Local Similarity  100.0%;   Pred. No. 7.5e-33;
Matches   38;  Conservative   0;  Mismatches   0;  Indels   0;  Gaps   0;

Qy   1   MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
         ||||||||||||||||||||||||||||||||||||||
Db   1   MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 9
ID   ABG67076 standard; peptide; 89 AA.
XX
AC   ABG67076;
XX
DT   24-SEP-2002   (first entry)
XX
DE   Streptavidin-binding peptide SB19 truncation mutant #2.
XX
KW   Streptavidin-binding peptide; mutant; mutein.
XX
OS   Escherichia coli.
XX
PN   WO200238580-A1.
XX
PD   16-MAY-2002.
XX
PF   31-OCT-2000; 2000WO-US41717.
XX
PR   31-OCT-2000; 2000WO-US41717.
XX
PA   (GEHO )  GEN HOSPITAL CORP.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2002-500155/53.
XX
PS   Claim 9; Fig 5; 56pp; English.
XX
CC   Novel peptide with high affinity for streptavidin, is expressed as part
CC   of fusion protein to facilitate detection, quantitation and
CC   purification of desired protein -
CC   The invention describes a peptide (I) which binds streptavidin with a
CC   dissociation constant less than 10 muM or 23 nM, where the amino acid
CC   sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC   disulfide bonded or cyclised. A fusion protein comprising a protein of
CC   interest covalently linked to (I) is useful for purifying a desired
CC   protein from a sample by contacting the sample with streptavidin under
CC   conditions that allow complex formation between the fusion protein and
CC   the streptavidin, isolating the complex and recovering the fusion
CC   protein, thereby purifying the protein of interest from the sample. The
CC   invention describes a method for producing a streptavidin-binding fusion
```

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CC   protein. This sequence represents a truncation mutant of the
CC   streptavidin-binding peptide SB-19 isolated from Escherichia coli using a
CC   method described in the specification.
XX
SQ   Sequence   89 AA;
XX

Query Match             80.9%;   Score 38;   DB 23;   Length 89;
Best Local Similarity  100.0%;   Pred. No. 8.8e-33;
Matches   38;  Conservative   0;  Mismatches   0;  Indels   0;  Gaps   0;

Qy   1   MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
         ||||||||||||||||||||||||||||||||||||||
Db   1   MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 10
ID   ABU57598 standard; peptide; 89 AA.
XX
AC   ABU57598;
XX
DT   09-APR-2003   (first entry)
XX
DE   Synthetic peptide SB19 C-terminal deletion mutant, C1.
XX
KW   Streptavidin-binding peptide; mRNA display; peptide library;
KW   fusion protein; mutant; mutein; SB19.
XX
OS   Synthetic.
XX
PN   US2002155578-A1.
XX
PD   24-OCT-2002.
XX
PF   31-OCT-2001; 2001US-0004381.
XX
PR   31-OCT-2000; 2000US-244541P.
XX
PA   (SZOS/)  SZOSTAK J W.
PA   (WILS/)  WILSON D S.
PA   (KEEF/)  KEEFE A D.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2003-182639/18.
XX
PS   Claim 14; Fig 5; 36pp; English.
XX
CC   Novel peptide which binds streptavidin with high affinity useful as
CC   affinity tags for purifying fusion proteins containing proteins of
CC   interest -
CC   The invention relates to a peptide which binds streptavidin with a
CC   dissociation constant less than 10 micro M, where the peptide is not
CC   disulphide bonded or cyclised, or with a dissociation constant less than
CC   10 micro M, where the amino acid sequence of the peptide does not contain
CC   an HPQ, HPM, HPN or HQP motif. The peptides are generated by the mRNA
CC   display method to create a library of peptides. Also include are a
CC   nucleic acid encoding the peptide, a vector comprising the nucleic acid,
CC   a fusion protein (and its encoding nucleic acid/vector) comprising a
CC   protein of interest covalently linked to the streptavidin binding
CC   peptide and detecting the presence of the fusion protein in a sample
CC   using streptavidin or streptavidin-containing compounds. The fusion
CC   protein (which comprises the desired protein of interest covalently
CC   linked to the streptavidin binding peptide) is useful for purifying a
CC   protein of interest from a sample, which involves expressing the
CC   fusion protein in the sample, contacting the sample with streptavidin
CC   under conditions that allow complex formation between the fusion protein
CC   and the streptavidin, isolating the complex and recovering the fusion
CC   protein, thereby purifying the protein of interest from the sample.
CC   The present sequence is a mutated version of SB19, a streptavidin binding
CC   peptide of the invention. The mutants comprise 3 N-terminal deletions,
CC   3 C-terminal deletions and a truncated N-terminal peptide with point
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CC   `mutations.
XX
SQ   Sequence    89 AA;

Qy           Query Match
             Best Local Similarity   80.9%;   Score 38;   DB 24;   Length 89;
             Matches  38;  Conservative   0;  Mismatches   0;  Indels   0;  Gaps   0;

Qy   1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
        ||||||||||||||||||||||||||||||||||||||
Db   1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 11
ID   ABG67073 standard; Peptide; 101 AA.
AC   ABG67073;
XX
DT   24-SEP-2002  (first entry)
XX
DE   Streptavidin-binding peptide SB19.
XX
KW   Streptavidin-binding peptide.
XX
OS   Escherichia coli.
XX
PN   WO200238580-A1.
XX
PD   16-MAY-2002.
XX
PF   31-OCT-2000; 2000WO-US41717.
XX
PR   31-OCT-2000; 2000WO-US41717.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Szostak JW,  Wilson DS,  Keefe AD;
XX
DR   WPI; 2002-500155/53.
XX
PT   Novel peptide with high affinity for streptavidin, is expressed as part
PT   of fusion protein to facilitate detection, quantitation and
PT   purification of desired protein -
XX
PS   Claim 9; Fig 3; 56pp; English.
XX
CC   The invention describes a peptide (I) which binds streptavidin with a
CC   dissociation constant less than 10 muM or 23 nM, where the amino acid
CC   sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC   disulfide bonded or cyclised. A fusion protein comprising a protein of
CC   interest covalently linked to (I) is useful for purifying a desired
CC   protein from a sample by contacting the sample with streptavidin under
CC   conditions that allow complex formation between the fusion protein and
CC   the streptavidin, isolating the complex and recovering the fusion
CC   protein, and thus purifying the desired protein from the sample. The
CC   invention describes a method for producing a streptavidin-binding fusion
CC   protein. This sequence represents a streptavidin-binding peptide isolated
CC   from Escherichia coli using a method described in the specification.
XX
SQ   Sequence   101 AA;

Qy           Query Match
             Best Local Similarity   80.9%;   Score 38;   DB 23;   Length 101;
             Matches  38;  Conservative   0;  Mismatches   0;  Indels   0;  Gaps   0;

Qy   1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
        ||||||||||||||||||||||||||||||||||||||
Db   1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 12
ABG67075
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ID   ABG67075 standard; Peptide; 101 AA.
AC   ABG67075;
XX
DT   24-SEP-2002  (first entry)
XX
DE   Streptavidin-binding peptide SB19 truncation mutant #1.
XX
KW   Streptavidin-binding peptide; mutant; mutein.
XX
OS   Synthetic.
XX
PN   WO200238580-A1.
XX
PD   16-MAY-2002.
XX
PF   31-OCT-2000; 2000WO-US41717.
XX
PR   31-OCT-2000; 2000WO-US41717.
XX
PA   (GEHO ) GEN HOSPITAL CORP.
XX
PI   Szostak JW,  Wilson DS,  Keefe AD;
XX
DR   WPI; 2002-500155/53.
XX
PT   Novel peptide with high affinity for streptavidin, is expressed as part
PT   of fusion protein to facilitate detection, quantitation and
PT   purification of desired protein -
XX
PS   Claim 9; Fig 5; 56pp; English.
XX
CC   The invention describes a peptide (I) which binds streptavidin with a
CC   dissociation constant less than 10 muM or 23 nM, where the amino acid
CC   sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC   disulfide bonded or cyclised. A fusion protein comprising a protein of
CC   interest covalently linked to (I) is useful for purifying a desired
CC   protein from a sample by contacting the sample with streptavidin under
CC   conditions that allow complex formation between the fusion
CC   protein, and thus purifying the desired protein from the sample. The
CC   invention describes a method for producing a streptavidin-binding fusion
CC   protein. This sequence represents a truncation mutant of the
CC   streptavidin-binding peptide SB-19 isolated from Escherichia coli using a
CC   method described in the specification.
XX
SQ   Sequence   101 AA;

Qy           Query Match
             Best Local Similarity   80.9%;   Score 38;   DB 23;   Length 101;
             Matches  38;  Conservative   0;  Mismatches   0;  Indels   0;  Gaps   0;

Qy   1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
        ||||||||||||||||||||||||||||||||||||||
Db   1  MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 13
ID   ABU57595 standard; Peptide; 101 AA.
AC   ABU57595;
XX
DT   09-APR-2003  (first entry)
XX
DE   Streptavidin-binding synthetic peptide SB19.
XX
KW   streptavidin-binding peptide; mRNA display; peptide library;
KW   fusion protein.
XX
OS   Synthetic.
XX
```

PN   US20021555578-A1.
XX
PD   24-OCT-2002.
XX
PF   31-OCT-2001; 2001US-0004381.
XX
PR   31-OCT-2000; 2000US-244541P.
XX
PA   (SZOS/) SZOSTAK J W.
PA   (WILS/) WILSON D S.
PA   (KEEF/) KEEFE A D.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2003-182639/18.
XX
PT   Novel peptide which binds streptavidin with high affinity useful as
PT   affinity tags for purifying fusion proteins containing proteins of
PT   interest -
PS   Claim 14; Fig 3; 36pp; English.
XX
CC   The invention relates to a peptide which binds streptavidin with a
CC   dissociation constant less than 10 micro M, where the peptide is not
CC   disulphide bonded or cyclised, or with a dissociation constant less than
CC   10 micro M, where the amino acid sequence of the peptide does not contain
CC   an HPQ, HPM, HPN or HQP motif. The peptides are generated by the mRNA
CC   display method to create a library of peptides. Also include are a
CC   nucleic acid encoding the peptide, a vector comprising the nucleic acid,
CC   a fusion protein (and its encoding nucleic acid/vector) comprising a
CC   protein of interest covalently linked to the streptavidin binding
CC   peptide and detecting the presence of the fusion protein in a sample
CC   using streptavidin or streptavidin-containing compounds. The fusion
CC   protein (which comprises the desired protein of interest covalently
CC   linked to the streptavidin binding peptide) is useful for purifying a
CC   protein of interest from a sample, which involves expressing the
CC   fusion protein in the sample, contacting the sample with streptavidin
CC   under conditions that allow complex formation between the fusion protein
CC   and the streptavidin, isolating the complex and recovering the fusion
CC   protein, thereby purifying the protein of interest from the sample.
CC   The present sequence is a streptavidin binding peptide of the invention.
XX
SQ   Sequence 101 AA;

Query Match   80.9%; Score 38; DB 24; Length 101;
Best Local Similarity   100.0%; Pred. No. 9.9e-33;
Matches 38; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 14
ID   ABU57597 standard; Peptide; 101 AA.
XX
AC   ABU57597;
XX
DT   09-APR-2003 (first entry)
XX
DE   Streptavidin-binding synthetic peptide SB19 full length peptide.
XX
KW   Streptavidin-binding peptide; mRNA display; peptide library;
KW   fusion protein.
OS   Synthetic.
XX
PN   US20021555578-A1.
PD   24-OCT-2002.
XX
PF   31-OCT-2001; 2001US-0004381.

XX
PR   31-OCT-2000; 2000US-244541P.
XX
PA   (SZOS/) SZOSTAK J W.
PA   (WILS/) WILSON D S.
PA   (KEEF/) KEEFE A D.
XX
PI   Szostak JW, Wilson DS, Keefe AD;
XX
DR   WPI; 2003-182639/18.
XX
PT   Novel peptide which binds streptavidin with high affinity useful as
PT   affinity tags for purifying fusion proteins containing proteins of
PT   interest -
PS   Claim 14; Fig 5; 36pp; English.
XX
CC   The invention relates to a peptide which binds streptavidin with a
CC   dissociation constant less than 10 micro M, where the peptide is not
CC   disulphide bonded or cyclised, or with a dissociation constant less than
CC   10 micro M, where the amino acid sequence of the peptide does not contain
CC   an HPQ, HPM, HPN or HQP motif. The peptides are generated by the mRNA
CC   display method to create a library of peptides. Also include are a
CC   nucleic acid encoding the peptide, a vector comprising the nucleic acid,
CC   a fusion protein (and its encoding nucleic acid/vector) comprising a
CC   protein of interest covalently linked to the streptavidin binding
CC   peptide and detecting the presence of the fusion protein in a sample
CC   using streptavidin or streptavidin-containing compounds. The fusion
CC   protein (which comprises the desired protein of interest covalently
CC   linked to the streptavidin binding peptide) is useful for purifying a
CC   protein of interest from a sample, which involves expressing the
CC   fusion protein in the sample, contacting the sample with streptavidin
CC   under conditions that allow complex formation between the fusion protein
CC   and the streptavidin, isolating the complex and recovering the fusion
CC   protein, thereby purifying the protein of interest from the sample.
CC   The present sequence is a streptavidin binding peptide of the invention.
XX
SQ   Sequence 101 AA;

Query Match   80.9%; Score 38; DB 24; Length 101;
Best Local Similarity   100.0%; Pred. No. 9.9e-33;
Matches 38; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
              ||||||||||||||||||||||||||||||||||||||
Db   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38

RESULT 15
ID   ABG67091 standard; Protein; 426 AA.
XX
AC   ABG67091;
XX
DT   24-SEP-2002 (first entry)
XX
DE   Maltose-binding protein/Streptavidin-binding peptide fusion protein #2.
XX
KW   Streptavidin-binding peptide; maltose-binding protein;
KW   hexahistidine tag.
OS   Escherichia coli.
XX
PN   WO200238580-A1.
PD   16-MAY-2002.
XX
PF   31-OCT-2000; 2000WO-US41717.
PR   31-OCT-2000; 2000WO-US41717.
XX
PA   (GEHO) GEN HOSPITAL CORP.
XX

PI .Szostak JW, Wilson DS, Keefe AD;
XX
DR WPI; 2002-500155/53.
DR N-PSDB; ABK95732.
XX
PT Novel peptide with high affinity for streptavidin, is expressed as part
PT of fusion protein to facilitate detection, quantitation and
PT purification of desired protein -
XX
PS Disclosure; Fig 9B; 56pp; English.
XX
CC The invention describes a peptide (I) which binds streptavidin with a
CC dissociation constant less than 10 muM or 23 nM, where the amino acid
CC sequence of (I) does not contain an HPQ, HPM, HPN or HQP motif, is not
CC disulfide bonded or cyclised. A fusion protein comprising a protein of
CC interest covalently linked to (I) is useful for purifying a desired
CC protein from a sample by contacting the sample with streptavidin under
CC conditions that allow complex formation between the fusion protein and
CC the streptavidin, isolating the complex and recovering the fusion
CC protein, and thus purifying the desired protein from the sample. The
CC invention describes a method for producing a streptavidin-binding fusion
CC protein. This sequence represents a fusion protein comprising fusion
CC maltose-binding protein, a streptavidin-binding peptide, and a
CC hexahistidine tag.
XX
SQ Sequence   426 AA;

Query Match   80.9%;   Score 38;   DB 23;   Length 426;
Best Local Similarity   100.0%;   Pred. No. 3.7e-32;
Matches 38; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy   1 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 38
           ||||||||||||||||||||||||||||||||||||||
Db   378 MDEKTTGWRGGHVVEGLAGELEQLRARLEHHPQGQREP 415

Search completed: February 6, 2004, 17:17:37
Job time : 41 secs